**Sarnafil® G410 Feltback**

**Adhered SystemDISCLAIMER**

All information provided by Sika Corporation (“Sika”) concerning Sika products, including but not limited to, any recommendations and advice relating to the application and use of Sika products, is given in good faith based on Sika’s current experience and knowledge of its products when properly stored, handled and applied under normal conditions in accordance with Sika’s instructions. In practice, the differences in materials, substrates, storage and handling conditions, actual site conditions and other factors outside of Sika’s control are such that Sika assumes no liability for the provision of such information, advice, recommendations or instructions related to its products, nor shall any legal relationship be created by or arise from the provision of such information, advice, recommendations or instructions related to its products. The user of the Sika product(s) must test the product(s) for suitability for the intended application and purpose before proceeding with the full application of the product(s). Sika reserves the right to change the properties of its products without notice. All sales of Sika product(s) are subject to its current terms and conditions of sale which are available at [usa.sarnafil.sika.com](https://usa.sarnafil.sika.com/) or by calling 800-451-2504.

**Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product’s most current Product Data Sheet, product label and Safety Data Sheet which are available online at** [usa.sarnafil.sika.com](https://usa.sarnafil.sika.com/) **or by calling Sika's Technical Department at 800-451-2504. Nothing contained in any Sika materials relieves the user of the obligation to read and follow the warnings and instruction for each Sika product as set forth in the current Product Data Sheet, product label and Safety Data Sheet prior to product use.**

Sika warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer’s sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor.

**NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

**Introduction**

[Sarnafil G410 Feltback Adhered System Description](#SYSTEM_DESCRIPTION) ii

[Regional Offices](#REGIONAL_OFFICES) iii

**Part 1 – General Conditions**

 1.01 [Description](#DESCRIPTION) 1

 1.02 [Quality Assurance](#QUALITY_ASSURANCE) 1

 1.03 [Submittals](#SUBMITTALS) 2

 1.04 [Code Requirements](#CODE_REQUIREMENTS) 2

 1.05 [Product Delivery, Storage and Handling](#PRODUCT_DELIVERY_STORAGE_HANDLING) 3

 1.06 [Job Conditions](#JOB_CONDITIONS) 3

 1.07 [Bidding Requirements](#BIDDING_REQUIREMENTS) 4

 1.08 [Warranties](#WARRANTIES) 5

 1.09 [Warranty Durations](#WARRANTY_DURATIONS) 5

**Part 2 - Products**

 2.01 [General](#GENERAL) 5

 2.02 [Membrane](#MEMBRANE) 6

 2.03 [Flashing Materials](#FLASHING_MATERIALS) 7

 2.04 [Insulations / Roof Board](#INSULATION_OVERLAYMENT_RECOVER_BOARD)s 10

 2.05 [Attachment Components](#ATTACHMENT_COMPONENTS) 12

 2.06 [Deck Primers](#DECK_PRIMERS) 16

 2.07 [Vapor Retarders](#VAPOR_RETARDER) 16

 2.09 [Miscellaneous Accessories](#MISCELLANEOUS_ACCESSORIES) 17

 2.08 [Walkway Protection](#WALKWAY_PROTECTION) 17

 2.10 [Sealants and Pitch Pocket Fillers](#SEALANTS_AND_PITCH_POCKET_FILLERS) 18

 2.11 [Miscellaneous Fasteners and Anchors](#MISCELLANEOUS_FASTENERS_AND_ANCHORS) 18

 2.12 [Related Materials](#RELATED_MATERIALS) 19

**Part 3 – Execution**

 3.01 [Pre-Construction Conference](#PRECONSTRUCTION_CONFERENCE) 19

 3.02 [Substrate Condition](#SUBSTRATE_CONDITION) 19

 3.03 [Substrate Preparation](#SUBSTRATE_PREPARATION) 19

 3.04 [Substrate Inspection](#SUBSTRATE_INSPECTION) 22

 3.05 [Vapor Retarder Installation](#VAPOR_RETARDER_AIR_RETARDER_INSTALLATION) 22

 3.06 [Wood Nailer Installation](#WOOD_NAILER_INSTALLATION) 24

 3.07 [Insulation / Roof Board Installation](#INSULATION_INSTALLATION) 24

 3.08 [Installation of Sarnafil Membrane](#INSTALLATION_OF_SARNAFIL_MEMBRANE) 26

 3.09 [Hot-Air Welding of Seam Overlaps](#HOTAIR_WELDING_OF_SEAM_OVERLAPS) 29

 3.10 [Membrane Flashings](#MEMBRANE_FLASHINGS) 30

 3.11 [Metal Flashings](#METAL_FLASHINGS) 30

 3.12 [Sarnaclad Metal Base Flashings / Edge Metal](#SARNACLAD_METAL_BASE_FLASHINGS_EDGE_META) 31

 3.13 [Edge Metal](#EDGE_METAL) 31

 3.14 [Walkway Installation](#WALKWAY_INSTALLATION) 32

 3.15 [Perimeter Warning](#PERIMETER_WARNING_TAPE) 33

 3.16 [Temporary Cut-Off](#TEMPORARY_CUTOFF) 33

 3.17 [Completion](#COMPLETION) 34

 3.18 [Details](#DETAILS) 34

**INTRODUCTION**

[**Sarnafil G410 Feltback Adhered System Description**](#INTRO)

In our Feltback Adhered System, our Sarnafil G410 feltback roof membrane is adhered with Sarnacol Adhesive to the pre-secured insulation board, cover board, or acceptable substrate. Cellular concrete is an ideal substrate for the Feltback Adhered System.

The Feltback Adhered System has many advantages including appearance and exceptional high wind-uplift resistance. In addition, this system provides a significant increase in puncture resistance compared to non-feltback membranes.

Sarnafil G410 feltback membrane is ideal for the Feltback Adhered System due to its excellent dimensional stability. The manufacturing process fuses liquid PVC to a non-woven fiberglass reinforcement resulting in a monolithic membrane that is stress free and unable to delaminate under any rooftop condition. The felt backing is applied on-line and is pressed into the back of the hot membrane. There is no separate lamination process utilized. The finished membrane is stress-free and unable to delaminate under any rooftop conditions.

Each Sarnacol Adhesive was developed by Sika Corporation specifically for Sarnafil membranes. These adhesives have superior bonding and long term performance properties.

We welcome you to review the following Sika Corporation - Roofing Specification and we ask that you contact us if you have any questions or need any additional information.

The proceeding specification should be amended as required to meet the project's needs.

**Thank you for choosing Sika Corporation for your roofing needs.**

**[REGIONAL OFFICES](#INTRO)**

|  |  |
| --- | --- |
| **NEW ENGLAND REGION**225 Dan RoadCanton, MA 02021Phone:(781) 821-0865Fax:(781) 821-9205**EASTERN REGION**One Park Way 3rd FloorUpper Saddle River, NJ 07458Phone:(201) 327-0479Fax:(201) 327-4069**SOUTHERN REGION**3483 Satellite BoulevardDuluth, GA 30096Phone:(770) 495-0025Fax:(770) 495-0027**MIDWEST REGION**200 W. 22nd St., Suite 216Lombard, IL 60148Phone:(800) 532-5123Fax:(630) 620-9646 | **SOUTHWEST REGION**2517 Fairway Park, Suite 200Houston, TX 77092Phone: (713) 812-0102Fax: (713) 812-0107**MOUNTAIN REGION**2881 South 900 WestSalt Lake City, UT 84119Phone:(801) 575-8648Fax:(801) 355-4407**WESTERN REGION NORTH**2375 Rodolfo CourtSparks, NV 89436Phone:(775) 626-7701Fax:( 775) 626-7703**WESTERN REGION SOUTH**6590 Darin WayCypress, CA 90630Phone:(714) 898-9355Fax:(714) 898-9357 |
| **WEB ADDRESS:**[www.sikacorp.com](http://www.sarnafilus.com/) | **EMAIL ADDRESS:**webmaster.sarnafil@us.sika.com |
| **SIKA CANADA - ROOFING**6915 Davand DriveMississauga, ON L5T 1L5Phone:(905) 795-3177Fax:(905) 795-3192[www.sika.ca](http://www.sika.ca/) |

**SECTION 07 54 19**

**THERMOPLASTIC MEMBRANE ROOFING**

**SARNAFIL G410 FELTBACK ADHERED SYSTEM**

**[NOTE TO SPECIFIER: NOTES TO SPECIFIER ARE DESIGNATED BY [ ]. SPECIFIER IS TO SELECT ONE OF THE OPTIONS PROVIDED FOR PROJECT SPECIFIC SPECIFICATIONS.]**

**TO DISPLAY OR HIDE SPECIFIER NOTES**

**MS Word (2007 and later): MS Word (prior to 2007):**

**1. Select the OFFICE logo or FILE in the upper left corner. 1. Select TOOLS.**

**2. Select OPTIONS. 2. Select OPTIONS.**

**3. Select DISPLAY on the left menu. 3. Select VIEW.**

**4. Select HIDDEN TEXT under “Always Show These”. 4. Select HIDDEN TEXT.**

# GENERAL CONDITIONS

## [DESCRIPTION](#PART_1)

### Scope

To install a complete Sarnafil G410 Feltback Adhered System including membrane, flashings and other components.

### Related Work

The work includes but is not limited to the installation of:

#### Removal of Existing Roofing and Insulation

#### Substrate Preparation

#### Roof Drains

#### Vapor Barrier

#### Wood Blocking

#### Insulation

#### Separation Layers

#### Roof Membrane

#### Fasteners

#### Adhesive for Flashings

#### Roof Membrane Flashings

#### Walkways

#### Metal Flashings

#### Sealants

### Upon successful completion of work the following warranties may be obtained:

#### Sika Corporation Warranty

#### Roofing Applicator Warranty

## [QUALITY ASSURANCE](#PART_1)

### This roofing system shall be applied only by a Roofing Applicator authorized by Sika Corporation prior to bid ("Applicator").

### Upon completion of the installation and the delivery to Sika Corporation by the Applicator of certification that all work has been done in strict accordance with the contract specifications and Sika Corporation's requirements, a Sika Corporation Technical Service Representative will review the installed roof system wherever a System Warranty has been specified.

### There shall be no deviation made from the Project Specification or the approved shop drawings without prior written approval by the Owner, the Owner's Representative and Sika Corporation.

### All work pertaining to the installation of Sarnafil membrane and flashings shall only be completed by Applicator personnel trained and authorized by Sika Corporation in those procedures.

### Roofing membrane manufacturer must have a demonstrated performance history of producing PVC roof membranes no less, in duration of years, than the warranty duration specified.

### Product to be manufactured by membrane supplier and not private labeled.

### Manufacturer to have a minimum of five years experience recycling their membranes at the end of their service life back into new membrane products. Provide a minimum of five reference projects.

## [SUBMITTALS](#PART_1)

At the time of bidding, the Applicator shall submit to the Owner (or Representative) the following:

### Copies of Specification.

### Samples of each primary component to be used in the roof system and the manufacturer's current literature for each component.

### Written approval by the insulation manufacturer (as applicable) for use and performance of the product in the proposed system.

### Sample copy of Sika Corporation's warranty.

### Sample copy of Applicator's warranty.

### Dimensioned shop drawings which shall include:

#### Outline of roof with roof size and elevations shown.

#### Details of flashing methods for penetrations.

### Certifications by manufacturers of roofing and insulating materials that all materials supplied comply with all requirements of the identified ASTM and other industry standards or practices.

### Certification from the Applicator that the system specified meets all identified code and insurance requirements as required by the Specification.

### Safety Data Sheets (SDS)

## [CODE REQUIREMENTS](#PART_1)

The Applicator shall submit evidence that the proposed roof system meets the requirements of the local building code and has been tested and approved or listed by the following test organizations. These requirements are minimum standards and no roofing work shall commence without written documentation of the system's compliance, as required in the "Submittals" section of this specification.

**[NOTE TO SPECIFIER: IF REQUIRED, SELECT FROM A, or B 1-3 , and C 1-3 BELOW.]**

### System shall be designed to meet a minimum wind design requirements of the most recent version of ASCE 7.

### Factory Mutual Research Corporation (FM) - Norwood, MA

#### Class 1-60 (required for most situations)

#### Class 1-75 (for increased wind exposure)

#### Class 1-90 (for high wind exposure)

### Underwriters Laboratories, Inc. - Northbrook, IL

#### Class A assembly

#### Class B assembly

#### Class C assembly

## [PRODUCT DELIVERY, STORAGE AND HANDLING](#PART_1)

### All products delivered to the job site shall be in the original unopened containers or wrappings bearing all seals and approvals.

### Handle all materials to prevent damage. Place all materials on pallets and fully protect from moisture.

### Membrane rolls shall be stored lying down on pallets and fully protected from the weather with clean canvas tarpaulins. Unvented polyethylene tarpaulins are not accepted due to the accumulation of moisture beneath the tarpaulin in certain weather conditions that may affect the ease of membrane weldability.

### As a general rule all adhesives shall be stored at temperatures between 40°F (4°C) and 80°F (27°C). Read instructions contained on adhesive canister for specific storage instructions.

### All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Follow precautions outlined on containers or supplied by material manufacturer/supplier.

### Any materials which the Owner’s representative or Sika Corporation determines to be damaged are to be removed from the job site and replaced at no cost to the Owner.

## [JOB CONDITIONS](#PART_1)

### Sika Corporation materials may be installed under certain adverse weather conditions but only after consultation with Sika Corporation, as installation time and system integrity may be affected.

### Only as much of the new roofing as can be made weathertight each day, including all flashing and detail work, shall be installed. All seams shall be heat welded before leaving the job site that day.

### All work shall be scheduled and executed without exposing the interior building areas to the effects of inclement weather. The existing building and its contents shall be protected against all risks.

### All surfaces to receive new insulation, membrane or flashings shall be dry. Should surface moisture occur, the Applicator shall provide the necessary equipment to dry the surface prior to application.

### All new and temporary construction, including equipment and accessories, shall be secured in such a manner as to preclude wind blow-off and subsequent roof or equipment damage.

### Uninterrupted waterstops shall be installed at the end of each day's work and shall be completely removed before proceeding with the next day's work. Waterstops shall not emit dangerous or unsafe fumes and shall not remain in contact with the finished roof as the installation progresses. Contaminated membrane shall be replaced at no cost to the Owner.

### The Applicator is cautioned that certain Sarnafil membranes are incompatible with asphalt, coal tar, heavy oils, roofing cements, creosote and some preservative materials. Such materials shall not remain in contact with Sarnafil membranes. The Applicator shall consult Sika Corporation regarding compatibility, precautions and recommendations.

### Arrange work sequence to avoid use of newly constructed roofing as a walking surface or for equipment movement and storage. Where such access is absolutely required, the Applicator shall provide all necessary protection and barriers to segregate the work area and to prevent damage to adjacent areas. A substantial protection layer consisting of plywood over Sarnafelt or plywood over insulation board shall be provided for all new and existing roof areas that receive rooftop traffic during construction.

### Prior to and during application, all dirt, debris and dust shall be removed from surfaces either by vacuuming, sweeping, blowing with compressed air or similar methods.

### The Applicator shall follow all safety regulations as required by OSHA and any other applicable authority having jurisdiction.

### All roofing, insulation, flashings and metal work removed during construction shall be immediately taken off site to a legal dumping area authorized to receive such materials. Hazardous materials, such as materials containing asbestos, are to be removed and disposed of in strict accordance with applicable City, State and Federal requirements.

### All new roofing waste material (i.e., scrap roof membrane, empty cans of adhesive) shall be immediately removed from the site by the Applicator and properly transported to a legal dumping area authorized to receive such material.

### The Applicator shall take precautions that storage and application of materials and equipment does not overload the roof deck or building structure.

### Installation of a Sarnafil membrane over coal tar pitch or a resaturated roof requires special consideration to protect the Sarnafil membrane from volatile fumes and materials. Consult Sika Corporation for precautions prior to bid.

### Flammable adhesives and deck primers shall not be stored and not be used in the vicinity of open flames, sparks and excessive heat.

### All rooftop contamination that is anticipated or that is occurring shall be reported to Sika Corporation to determine the corrective steps to be taken.

### The Applicator shall verify that all roof drain lines are functioning correctly (not clogged or blocked) before starting work. Applicator shall report any such blockages in writing (letter copy to Sika Corporation) to the Owner's Representative for corrective action prior to the installation of the Sika Corporation roof system.

### Applicator shall immediately stop work if any unusual or concealed condition is discovered and shall immediately notify Owner of such condition in writing for correction at the Owner's expense (letter copy to Sika Corporation).

### Site cleanup, including both interior and exterior building areas that have been affected by construction, shall be completed to the Owner's satisfaction.

### All landscaped areas damaged by construction activities shall be repaired at no cost to the Owner.

### The Applicator shall conduct fastener pullout tests in accordance with the latest version of the SPRI/ANSI Fastener Pullout Standard to verify condition of the deck/substrate and to confirm expected pullout values.

### The Sarnafil membrane shall not be installed under the following conditions without consulting Sika Corporation’s Technical Dept. for precautionary steps:

#### The roof assembly permits interior air to pressurize the membrane underside.

#### Any exterior wall has 10 percent or more of the surface area comprised of opening doors or windows.

#### The wall/deck intersection permits air entry into the wall flashing area.

### Precautions shall be taken when using Sarnacol adhesives at or near rooftop vents or air intakes. Adhesive odors could enter the building. Coordinate the operation of vents and air intakes in such a manner as to avoid the intake of adhesive odor while ventilating the building. Keep lids on unused cans at all times.

### Protective wear shall be worn when using solvents or adhesives or as required by job conditions.

### Sarnafil membranes are slippery when wet or covered with snow, frost, or ice. Working on surfaces under these conditions is hazardous. Appropriate safety measures must be implemented prior to working on such surfaces. Always follow OSHA and other relevant fall protection standards when working on roofs.

## [BIDDING REQUIREMENTS](#PART_1)

### Pre-Bid Meeting:

A pre-bid meeting shall be held with the Owner's Representative and involved trades to discuss all aspects of the project. The Applicator's field representative or roofing foreman for the work shall be in attendance. Procedures to avoid rooftop damage by other trades shall be determined.

### Site Visit:

Bidders shall visit the site and carefully examine the areas in question as to conditions that may affect proper execution of the work. All dimensions and quantities shall be determined or verified by the Applicator. No claims for extra costs will be allowed because of lack of full knowledge of the existing conditions unless agreed to in advance with the Owner or Owner's Representative.

## [WARRANTIES](#PART_1)

### Sika Corporation Warranty

Upon successful completion of the work to Sika Corporation's satisfaction and receipt of final payment, the Sika Corporation Warranty shall be issued.

**[NOTE TO SPECIFIER: SELECT DESIRED WARRANTY.]**

#### Membrane Warranty

#### System Warranty (only products purchased from Sika Corporation are covered under System Warranty)

### Applicator/Roofing Contractor Warranty

Applicator shall supply Owner with a separate workmanship warranty. In the event any work related to roofing, flashing, or metal is found to be within the Applicator warranty term, defective or otherwise not in accordance with Contract Documents, the Applicator shall repair that defect at no cost to the Owner. Applicator's warranty obligation shall run directly to Owner, and a copy shall be sent to Sika Corporation.

### Owner Responsibility

Owner shall notify both Sika Corporation and the Applicator of any leaks as they occur during the time period when both warranties are in effect.

## [WARRANTY DURATIONS](#PART_1)

**[NOTE TO SPECIFIER: SPECIFY EITHER 5, 10, 15, 20, 25, OR 30 YEAR DURATION BELOW FOR SIKA CORPORATION WARRANTY. ADDITIONAL ENHANCEMENTS REQUIRED FOR DURATIONS GREATER THAN 20 YEARS. CONSULT SIKA CORPORATION FOR ASSISTANCE.]**

### Sika Corporation’s warranty shall be in effect for a year duration.

### Applicator’s/Roofing Contractor’s Warranty shall be in effect for a year duration.

# PRODUCTS

##### [GENERAL](#PART_2)

### Components of the roof system are to be products of Sika Corporation as indicated on the Detail Drawings and specified in the Contract Documents.

### Components to be used that are other than those supplied or manufactured by Sika Corporation may be submitted for review and acceptance by Sika Corporation. Sika Corporation’s acceptance of any other product is only for a determination of compatibility with Sika Corporation products and not for inclusion in the Sika Corporation warranty. The specifications, installation instructions, limitations, and restrictions of the respective manufacturers must be reviewed by the Owner’s Representative for acceptability for the intended use with Sika Corporation products.

### Special consideration should be given to construction related moisture. An example is the significant amount of moisture generated when concrete floor slabs are poured after the roof has been installed. Sika Corporation is not responsible for damage to the insulation when exposed to construction related moisture.

##### [MEMBRANE](#PART_2)

### Membrane shall conform to:

#### ASTM D4434 (latest version), "Standard for Polyvinyl Chloride Sheet Roofing". Classification: Type II, Grade I.

#### NSF/ANSI Standard 347, “Sustainability Assessment for Single Ply Roofing Membranes”. Certification Level: Platinum.

#### The manufacture to guarantee that the membrane thickness meets or exceeds [the specified thickness] when tested according to ASTM D751

### Sarnafil G410 thermoplastic membrane with fiberglass reinforcement, lacquer coating, and a factory applied 9 oz. felt backing.

### Thickness

**[NOTE TO SPECIFIER: SELECT APPROPRIATE PRODUCT. FOR 25 YEAR WARRANTY DURATION MINIMUM 72 MIL MEMBRANE IS REQUIRED. FOR 30 YEAR WARRANTY DURATION MINIMUM 80 MIL MEMBRANE IS REQUIRED.]**

#### Sarnafil G410-15 feltback, 60 mil (1.5 mm)

#### Sarnafil G410-18 feltback, 72 mil (1.8 mm)

#### Sarnafil G410-20 feltback, 80 mil (2.0 mm)

#### Other

### Color of Membrane

**[NOTE TO SPECIFIER: SPECIFY ENERGYSMART WHITE UNLESS A SPECIAL COLOR IS REQUIRED. ONLY ENERGYSMART WHITE, LIGHT GRAY OR TAN COLORS ARE ELIGIBLE FOR WARRANTY DURATIONS GREATER THAN 20 YEARS.]**

#### EnergySmart White, initial solar reflectance of 0.83, emittance of 0.90, and solar reflective index (SRI) of 104 (ENERGY STAR listed).

#### EnergySmart Light Gray, initial solar reflectance of 0.51, emittance of 0.84, and solar reflective index (SRI) of 58 (ENERGY STAR listed).

#### EnergySmart Tan, initial solar reflectance of 0.73, emittance of 0.85, and solar reflective index (SRI) of 89.

#### Other

### Typical Physical Properties (1)

|  |  |  |  |
| --- | --- | --- | --- |
| **Property** | **ASTMTest****Method** | **ASTM Type II****D-4434 Spec.****Requirement** | **Typical Results** |
| Overall Thickness, mil | D751 | 45 | **60** | **72** | **80** |
| Thickness Over Scrim, mil | -- | 16 | 27 | 35 | 40 |
| Reinforcing Material | -- | -- | Fiberglass | Fiberglass | Fiberglass |
| Felt Weight, oz/yd2 (feltback membrane only) | -- | -- | 9 | 9 | 9 |
| Breaking Strength, lbf/in (N) | D751 | 55 (245) | 80 (356) | 100 (445) | 110 (489) |
| Elongation at Break, %M. D.1 & C.M.D.1 | D751 | 250 & 220 | 250 & 220 | 250 & 220 | 250 & 220 |
| Seam Strength, % of original2 | D751 | 75 | Pass | Pass | Pass |
| Retention of Properties After Heat Aging | D3045 | -- | -- | -- | -- |
|  Tensile Strength, % of original | D751 | 90 | Pass | Pass | Pass |
|  Elongation, % of original | D751 | 90 | Pass | Pass | Pass |
| Tearing Resistance, lbf (N)  | D1004 | 10 (45) | 17.5 (78) | 20.5 (91) | 22 (98) |
| Low Temperature Bend, -40°F (-40°C) | D2136 | Pass | Pass | Pass | Pass |
| Accelerated Weathering Test (Florescent Light UV exposure), Hours | G154 | 5,000 | 10,000 | 10,000 | 10,000 |
|  Cracking (7x magnification) | -- | None | None | None | None |
|  Discoloration (by observation) | -- | Negligible | Negligible | Negligible | Negligible |
|  Crazing (7x magnification) | -- | None | None | None | None |
| Linear Dimensional Change, %  | D1204 | 0.1 | -0.02 | -0.01 | -0.01 |
| Weight Change After Immersion in Water, % | D570 | ± 3.0 | 1.9 | 1.8 | 1.7 |
| Static Puncture Resistance | D5602 | Pass | Pass | Pass | Pass |
| Dynamic Puncture Resistance, ft-lbf (J) | D5635 | 7.3 (10) | Pass | Pass | Pass |
| Recycled Content (10' & 5' sheet only) | 9% Pre-Consumer / 1% Post-Consumer |
| *\* Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions, and curing conditions.**1 M.D. = Machine Direction, C.M.D. = Cross Machine Direction**2 Failure occurs through membrane rupture not seam failure.* |

##### [FLASHING MATERIALS](#PART_2)

### Wall / Curb Flashing

#### Sarnafil G410 Flashing Membrane

A fiberglass reinforced membrane adhered to approved substrates using Sarnacol adhesive. Sarnafil G410 Flashing Membrane comes in 8” and 12” widths and is 60 mil (1.5 mm) thick. Consult Product Data Sheets for adhesive options and additional information.

#### G459 Flashing Membrane

A fiberglass reinforced membrane adhered to asphalt, other contaminated surfaces, or approved substrates using Sarnacol adhesive. G459 comes in 6.5’ and 3.25’ widths and is 60 mil (1.5mm) thick. The standard color is white on tan. The tan side of the membrane must be the side exposed to the contamination. Consult Product Data Sheet for adhesive rates and additional information.

#### Sarnaclad

A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 24 gauge, G90 galvanized metal sheet with a 20 mil (0.5 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0 m). Consult Product Data Sheet for additional information.

### Perimeter Edge Flashing

**[NOTE TO SPECIFIER: SELECT 1, 2, OR 3 AND SPECIFY COLOR. FOR WARRANTY DURATIONS GREATER THAN 20 YEARS SPECIFY EITHER EDGE GRIP, EDGE GRIP EXTRUDED, OR SARNACLAD METAL FORMED PER SARNACLAD HIGH WIND DETAIL 1-1A.]**

#### Edge Grip Fascia

A prefabricated perimeter edge system provided by Sika Corporation. The system has concealed fasteners with no penetrations on the horizontal roof surface and includes fasteners and splice plates. Edge Grip is made from two distinct parts. A rigid retainer base plate and a decorative snap-on fascia cover. The retainer is made from 20 gauge galvanized steel in 10 foot (3048 mm) standard lengths and is provided with 9/32 inch (7 mm) slotted pre-punched holes for fastener spacing at 12 inches (152 mm) on center. As an option the retainer base plate is also available in 0.05 inch (1.3 mm) aluminum. The snap-on fascia cover is available in 10 foot (3048 mm) lengths and in a variety of thickness, colors, finishes, and widths. Kynar-500 colors are available for galvanized steel and natural mill finished aluminum. Clear and anodized colors are available for anodized finished aluminum. Matching corners, end caps, fascia sumps, spillouts, etc. are available as accessories. Consult Product Data Sheet for additional information.

**[NOTE TO SPECIFIER: SELECT ONE RETAINER BASE PLATE EITHER A OR B. SELECT ONE SNAP-ON FASCIA COVER EITHER C THROUGH F. SELECT ONE SNAP-ON FASCIA FINISH EITHER G, H, OR I. DELETE ITEMS THAT ARE NOT NEEDED.]**

1. Retainer base plate shall be 20 gauge galvanized steel in 10 ft. lengths.
2. Retainer base plate shall be 0.05 inch aluminum in 10 ft. lengths.
3. Snap-on fascia cover shall be 24 gauge galvanized steel in 10 ft. lengths.
4. Snap-on fascia cover shall be 0.04 inch aluminum in 10 ft. lengths.
5. Snap-on fascia cover shall be 0.05 inch aluminum in 10 ft. lengths.
6. Snap-on fascia cover shall be 0.063 inch aluminum in 10 ft. lengths.
7. Snap-on fascia cover shall have a natural mill finish.
8. Snap-on fascia cover shall have a Kynar finish.
9. Snap-on fascia cover shall have a anodized finish.
10. Snap-on fascia cover color shall be .

#### Edge Grip Extruded Fascia

A heavy-duty prefabricated perimeter edge system provided by Sika Corporation. The system has concealed fasteners with no penetrations on the horizontal roof surface and includes fasteners and splice plates. Edge Grip Extruded is made from two distinct parts. A heavy-duty extruded retainer base plate and a decorative snap-on fascia cover. The extruded retainer is made from 0.10 inch (2.5 mm) extruded aluminum in 10 foot (3048 mm) standard lengths and is provided with 0.187 inch (4.7 mm) pre-punched slotted holes for fastener spacing at 12 inches (152 mm) on center. The snap-on fascia cover is available in 10 foot (3048 mm) lengths and in a variety of thickness, colors, finishes, and widths. Kynar-500 colors are available for galvanized steel and natural mill finished aluminum. Clear and anodized colors are available for anodized finished aluminum. Matching corners, end caps, fascia sumps, spillouts, etc. are available as accessories. Consult Product Data Sheet for additional information.

**[NOTE TO SPECIFIER: SELECT ONE SNAP-ON FASCIA COVER EITHER B THROUGH E. SELECT ONE SNAP-ON FASCIA FINISH EITHER F, G, OR H. DELETE ITEMS THAT ARE NOT NEEDED.]**

1. Retainer base plate shall be 0.10 inch aluminum in 10 ft. lengths.
2. Snap-on fascia cover shall be 24 gauge galvanized steel 10 ft. lengths.
3. Snap-on fascia cover shall be 0.04 inch aluminum in 10 ft. lengths.
4. Snap-on fascia cover shall be 0.05 inch aluminum in 10 ft. lengths.
5. Snap-on fascia cover shall be 0.063 inch aluminum in 10 ft. lengths.
6. Snap-on fascia cover shall have a natural mill finish.
7. Snap-on fascia cover shall have a Kynar finish.
8. Snap-on fascia cover shall have a anodized finish.
9. Snap-on fascia cover color shall be .

#### Sarnaclad

A PVC-coated, heat-weldable sheet metal capable of being formed into a variety of shapes and profiles. Sarnaclad is a 24 gauge, G90 galvanized metal sheet with a 20 mil (0.5 mm) unsupported Sarnafil membrane laminated on one side. The dimensions of Sarnaclad are 4 ft x 8 ft (1.2 m x 2.4 m) or 4 ft x 10 ft (1.2 m x 3.0 m). Consult Product Data Sheet for additional information.

#### Non-Typical Edge

Project-specific perimeter edge detail reviewed and accepted for one-time use by Sika Corporation's Technical Department. Consult Regional Technical Manager prior to job start for review and consideration for acceptance.

### Miscellaneous Flashing

#### Detail Membrane

A 60 mil (1.5 mm) fiberglass reinforced membrane, available 12″ x 50′ (30.5 cm x 15.2 m) roll and 24″ x 50′ (61 cm x 15.2 m) roll, more pliable than Sarnafil G410 membrane, good use for flashing pipes, corners, and unusual shaped penetrations. Consult Product Data Sheet for additional information.

#### Sarnacircles

A 60 mil (1.5mm) thick prefabricated 4 1/2 in. round circle patch injection molded. Consult Product Data Sheet for additional information.

#### Sarnacorners - Inside

A 60 mil (1.5 mm) thick prefabricated inside corner injection molded. Consult Product Data Sheet for additional information.

#### Sarnacorners - Outside

A 60 mil (1.5 mm) thick prefabricated outside corner injection molded. Consult Product Data Sheet for additional information.

#### Sarnastack Universal, A, B, or C

A 60 mil (1.5 mm) thick prefabricated stack/pipe boot injection molded. Consult Product Data Sheets for additional information.

#### Open Post Flashing

A 48 mil (1.2 mm) thick prefabricated flashing using weld technology convenient to flash obstructed rooftop conduits and pipes. Open post flashings are fabricated with an open seam and are available in different sizes. Consult Product Data Sheet for sizes and additional information.

#### Sarnareglet

A heavy-duty, extruded aluminum flashing termination reglet used at walls and large curbs. Sarnareglet is produced from 6063-T5, 0.10 inch to 0.12 inch (2.5 mm to 3.0 mm) thick extruded aluminum. Sarnareglet has a 2-1/4 inch (57 mm) deep profile, and is provided in 10 foot (3 m) lengths. Use prefabricated Sarnareglet mitered inside and outside corners where walls intersect. Consult Product Data Sheet for additional information.

#### Sarnadrain - UFlow

A seamless heavy-duty aluminum drain, featuring a coated flange for hot air welding of Sarnafil membranes. Sarnadrain-Uflow consists of a one-piece spun, 0.125 in.(3.175 mm), 11 gauge thick aluminum body, a 17.5” (445 mm) diameter, and a 12” (305 mm) long drain stem.

#### Sarnacol 2170 Adhesive

A solvent-based reactivating adhesive used to attach membrane to flashing substrate. Typical flashing substrate coverage rate is 45-60ft² /gal (1.10–1.47m²/L) . Consult Product Data Sheets for additional information.

#### Sarnacol 2170 VC Adhesive

A solvent-based, VOC compliant, reactivating adhesive used to attach membrane to flashing substrate. Typical flashing substrate coverage rate is 45-60ft² /gal (1.10–1.47m²/L). Consult Product Data Sheets for additional information.

#### Sarnafelt

A leveling and/or separation layer that is necessary behind Sarnafil G410 or G459 Flashing Membrane when the flashing substrates are rough or incompatible with the flashing membrane. When Sarnafelt is used as a leveling and/or separating layer a 2nd coat on the dried substrate at the same rate is required to adhere the felt and then the membrane. Consult Product Data Sheets for additional information.

##### [INSULATIONS / ROOF BOARD](#PART_2)S

**[NOTE TO SPECIFIER: SELECT ONLY ONE TYPE OF INSULATION.]**

**[NOTE TO SPECIFIER: INSULATION REQUIREMENTS ARE LISTED BELOW FOR WARRANTY DURATIONS GREATER THAN 20 YEARS. SPECIFY ONE OF THE THREE OPTIONS.**

1. **TWO LAYERS OF SARNATHERM INSULATION ACFOAM IV. EACH LAYER TO BE A MAXIMUM OF 2.7 INCHES THICK.**
2. **1/2 INCH DENSDECK PRIME OR SECUROCK GYPSUM-FIBER COVERBOARD OVER SARNATHERM INSULATION GLASS FIBER MAT FACER. EACH LAYER TO BE A MAXIMUM OF 2.7 INCHES THICK.**
3. **1/2 INCH DENSDECK PRIME OR SECUROCK GYPSUM-FIBER COVERBOARD OVER SARNATHERM XPS.]**

### Sarnatherm Insulation Cellulosic Felt Facer

A 20 or 25 psi rigid polyisocyanurate insulation board with a glass fiber reinforced cellulosic felt facer. One side is marked that can be used for hot BUR and modified bitumen. Available in 4 x 4 ft (1.2 x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) flat and tapered sizes in various thicknesses. Consult Product Data Sheet for additional information.

### Sarnatherm Insulation Glass Fiber Mat Facer

A 20 or 25 psi rigid polyisocyanurate insulation board with a coated polymer bonded glass fiber mat facer. A glass mat facer CANNOT be used with hot-applied systems. Available in 4 x 4 ft (1.2 x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) flat or tapered sizes in various thicknesses. Consult Product Data Sheet for additional information.

### Sarnatherm Insulation ACFoam IV

A 20 or 25 psi rigid polyisocyanurate insulation board with integrally laminated heavy, durable, and dimensionally stable coated polymer bonded glass fiber mat facer. Glass mat facers CANNOT be used with hot-applied systems. Available in 4 x 4 ft (1.2 x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) flat or tapered sizes in various thicknesses.

**[NOTE TO SPECIFIER: POLYSTYRENE INSULATIONS SHOULD NOT BE USED IN DIRECT CONTACT WITH CHIMNEYS, HEATER VENTS, STEAM PIPES OR OTHER SURFACES WHERE TEMPERATURES EXCEED 150°F (65.5°C). POLYSTYRENE INSULATIONS SHOULD HAVE ADDITIONAL PROTECTION IN ADDITION TO NORMALLY SPECIFIED COVER BOARDS IN AREAS WHERE DARK MEMBRANES ARE USED AND WHERE "REFLECTED SOLAR ENERGY" IS EXPECTED TO BE PRESENT. AREAS ADJACENT TO HIGHER WALLS OR OTHER STRUCTURES WITH REFLECTIVE CLADDING SHOULD BE CONSIDERED FOR ADDITIONAL HEAT PROTECTION. FOR EXAMPLE AREAS NEAR METAL OR GLASS CLADDING, OR NEAR, OR IN BETWEEN LARGE GROUPINGS OF MECHANICAL EQUIPMENT, OR NEAR HIGHER REFLECTIVE PARAPETS, SHOULD BE CONSIDERED FOR ADDITIONAL HEAT PROTECTION. ADDITIONAL HEAT PROTECTION FOR SUCH ROOF AREAS INCLUDE COVERING ROOFING MEMBRANE WITH SARNAFIL PVC PROTECTION LAYER AND THEN APPLYING PAVERS OR BALLAST TO THE AFFECTED AREA.**

**A separation layer of polyisocyanurate, gypsum, or approved slip sheet must be placed between the styrene boards and Sarnafil membrane.**

**USE A THERMAL BARRIER BETWEEN METAL ROOF DECK AND POLYSTYRENE INSULATION ON FM INSURED PROJECTS OR WHEN REQUIRED BY LOCAL CODE.]**

### Sarnatherm EPS

### A closed-cell expanded polystyrene foam insulation board. Available in 4 ft x 4 ft (1.2 m x 1.2 m) or 4 ft x 8 ft (1.2 m x 2.4 m) flat and tapered sizes in various thicknesses. Consult Product Data Sheets for additional information.

### Sarnatherm XPS

A closed-cell extruded polystyrene foam insulation board with a smooth skin surface on the face and back surfaces. Available in 2 ft x 8 ft (0.6 m x 2.4 m) or 4 ft x 8 ft (1.2 m x 2.4 m) flat or tapered sizes in various thicknesses and compressive strengths. Consult Product Data Sheets for additional information.

**[NOTE TO SPECIFIER: IF REQUIRED, SELECT ONE ROOF BOARD. SARNATHERM ROOF BOARD-M DOES NOT QUALIFY FOR A 25 OR 30 YEAR WARRANTY. A MINIMUM THICKNESS OF 3/8 INCH (9.5 MM) IS REQUIRED OVER B.U.R. APPLICATIONS.]**

### Sarnatherm Roof Board-A

A >90 psi high density polyisocyanurate roof board with a coated glass facer, provided in 4 ft. x 4 ft. (1.2 m x 1.2 m) and 4 ft. x 8 ft. (1.2 m x 2.4 m) board sizes and in a thickness of 1/2 inch (12.7 mm). Consult Product Data Sheet for additional information.

### Sarnatherm Roof Board-H

A >100 psi high density polyisocyanurate roof board with a coated glass facer, provided in 4 ft. x 4 ft. (1.2 m x 1.2 m) and 4 ft. x 8 ft. (1.2 m x 2.4 m) board sizes and in a thickness of 1/2 inch (12.7 mm). Consult Product Data Sheet for additional information.

### Sarnatherm Roof Board-M

A 150 psi high density polyisocyanurate roof board with a coated glass facer, provided in 4 ft. x 4 ft. (1.2 m x 1.2 m) and 4 ft. x 8 ft. (1.2 m x 2.4 m) board sizes and in a thickness of 1/4 inch (6.6 mm). Consult Product Data Sheet for additional information.

### DensDeck

Employs fiberglass mats front and back that are bonded to a high density gypsum core. DensDeck is provided in a 4 x 8 ft (1.2 x 2.4 m) board size and in thicknesses of 1/4, 1/2 and 5/8 inch (6, 13 and 16 mm). Consult Product Data Sheet for additional information.

### DensDeck Prime

Employs enhanced fiberglass mats front and back that are bonded to a high density gypsum core. DensDeck Prime is provided in 4 ft. x 4 ft. (1.2 m x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) board sizes and in thicknesses of 1/4, 1/2 and 5/8 inch (6, 13 and 16 mm). Consult Product Data Sheet for additional information.

### Securock Gypsum-Fiber

A fiber-reinforced, homogenous composition gypsum roof board. Securock Gypsum-Fiber is provided in 4 ft. x 4 ft. (1.2 m x 1.2 m) or 4 x 8 ft (1.2 x 2.4 m) board sizes and in thicknesses of 1/4 inch (6.6 mm), 3/8 inch (9.5 mm), 1/2 inch (12.7 mm) and 5/8 inch (15.9 mm). Consult Product Data Sheet for additional information.

### Cellular Concrete

An aerated insulating concrete slurry mixed on-site and poured in-place onto the roof deck. A surface sealant is used to improve the curing process and to reduce dusting at the surface.

##### [ATTACHMENT COMPONENTS](#PART_2)

### Membrane Adhesive

**[NOTE TO SPECIFIER: DO NOT SPECIFY SARNACOL 2170 OR 2170 VC ADHESIVE WITH POLYSTYRENE INSULATIONS; EVEN WHEN A ROOF BOARD IS USED.]**

#### Sarnacol 2170 Adhesive:

A solvent-based reactivating-type adhesive used to attach the membrane to the substrate. Consult Product Data Sheets for additional information.

#### Sarnacol 2170 VC Adhesive:

A solvent-based, VOC compliant, reactivating adhesive used to attach the membrane to the substrate. Consult Product Data Sheets for additional information.

|  |
| --- |
| SARNACOL 2170 / 2170 VC COVERAGE RATES FOR FELTBACK MEMBRANE |
|  | **Substrate**(1st coat) |  | **Substrate**(2nd coat) |  | **Total** | **Approximate****/ Pail** |
| Polyisocyanurate Felt Facer | 80ft² /gal *(2.0* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 44 ft² /gal *(4.1* m²/L*)* | 222 ft²*(20.6* m²*)* |
| Polyisocyanurate Glass Facer | 100 ft² /gal *(2.5* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 50 ft² /gal *(4.6* m²/L*)* | 250 ft²*(23.2* m²*)* |
| Smooth Plywood | 100 ft² /gal *(2.5* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 50 ft² /gal *(4.6* m²/L*)* | 250 ft²*(23.2* m²*)* |
| Concrete Deck | 80ft² /gal *(2.0* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 44 ft² /gal *(4.1* m²/L*)* | 222 ft²*(20.6* m²*)* |
| Cellular Concrete | 80ft² /gal *(2.0* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 44 ft² /gal *(4.1* m²/L*)* | 222 ft²*(20.6* m²*)* |
| DensDeck® | 80ft² /gal *(2.0* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 44 ft² /gal *(4.1* m²/L*)* | 222 ft²*(20.6* m²*)* |
| DensDeck Prime | 100 ft² /gal *(2.5* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 50 ft² /gal *(4.6* m²/L*)* | 250 ft²*(23.2* m²*)* |
| Securock® Gypsum-Fiber | 100 ft² /gal *(2.5* m²/L*)* | + | 100 ft² /gal *(2.5* m²/L*)* | = | 50 ft² /gal *(4.6* m²/L*)* | 250 ft²*(23.2* m²*)* |

Notes:

a) Due to an increase in viscosity when outdoor temperatures during installation are below 40°F (5°C), add 1/2 gallon per 100 ft² (2.5m²) to rate for estimating purposes.

#### Sarnacol 2121 Adhesive:

A water-based adhesive used to attach the membrane to horizontal or near-horizontal substrates. Consult Product Data Sheets for additional information.

|  |
| --- |
| SARNACOL 2121 COVERAGE RATES FOR FELTBACK MEMBRANE |
| **Substrate** | **Squeegee Applied**Total Rate | **Roller Applied**Total Rate | **Spray Applied**Total Rate |
| Polyisocyanurate Felt Facer | 57 ft² /gal (1.4 m²/L) | 100 ft²/gal (2.5 m²/L) | 133 ft²/gal(3.3m²/L) |
| Polyisocyanurate Glass Facer | 67 ft² /gal (1.63 m²/L) | 100 ft²/gal (2.5 m²/L) | 133 ft²/gal(3.3m²/L) |
| Smooth Plywood | 57 ft² /gal (1.4 m²/L) | 100 ft²/gal (2.5 m²/L) | 133 ft²/gal(3.3m²/L) |
| Concrete Deck | 50 ft² /gal (1.2 m²/L) | 100 ft²/gal(2.5 m²/L) | 100 ft²/gal(2.5 m²/L) |
| Cellular Concrete | 50 ft² /gal (1.2 m²/L) | 100 ft²/gal(2.5 m²/L) | 100 ft²/gal(2.5 m²/L) |
| DensDeck®  | 57 ft²/gal(1.4 m²/L) | 100 ft²/gal(2.5 m²/L) | 100 ft²/gal(2.5 m²/L) |
| DensDeck Prime | 67 ft² /gal (1.63 m²/L) | 100 ft²/gal (2.47 m²/L) | 133 ft²/gal (3.27m²/L) |
| Securock® Gypsum-Fiber | 67 ft² /gal (1.63 m²/L) | 100 ft²/gal (2.47 m²/L) | 133 ft²/gal (3.27m²/L) |

#### Sarnacol AD Feltback Membrane Adhesive

A low odor, VOC compliant, one step foamable polyurethane adhesive used to attach feltback membrane to approved compatible substrates. Adhesive is applied by combining two 5 gallon box sets placed on a cart and dispensed through a combining hose or by hand with a dual component caulk gun. Additional adhesive may be required for rougher surfaces. Consult Product Data Sheets for additional information and for approved substrates.

#### Sarnacol OM Feltback Membrane Adhesive

A low odor, VOC compliant, one step foamable polyurethane adhesive used to attach feltback membrane to approved compatible substrates. Adhesive is applied by combining two 5 gallon box sets placed on a cart and dispensed through a combining hose or by hand with a dual component caulk gun. Additional adhesive may be required for rougher surfaces. Consult Product Data Sheets for additional information and for approved substrates.

### Insulation / Roof Board Adhesive

**[NOTE TO SPECIFIER: Not recommended for use with insulation boards larger than 4x4 feet (1.2x1.2 m). Additional securement required for high wind speed warranties.]**

#### Sarnacol 2163 Adhesive:

A low odor, VOC compliant, one step, low-rise urethane foam used to attach insulation to approved compatible substrates. Adhesive is applied with a gravity fed applicator or by hand with a dual component caulk gun. Additional adhesive may be required for rougher surfaces. Consult Product Data Sheets for additional information and for approved substrates and approved insulations.

Coverage - Approximately 600 sq. ft. per case. Rates are based on an application pattern of 4 ribbons, 1/4-1/2 in. (6-13 mm) beads, 12 in. (30 cm) o.c. per 4 x 4 ft. (121.9 x 121.9 cm) insulation board. Coverage rates may vary over irregular surfaces.

Approximate Set-Time - Air Temperature between 60-90°F (15-32°C) = 5-8 minutes.

 Air Temperature between 32-60°F (0-15°C) = 8-15 minutes.

Storage - For ease of application, maintain a minimum material temperature of 70°F (21°C) prior to use. Store in a cool dry location at temperatures between 55°F (12.7° C) and 85°F (29.4°C), protect from freezing at all times. Shelf life is 8 months from the date of manufacture.

#### Sarnacol AD Board Adhesive:

A low odor, VOC compliant, one step foamable polyurethane adhesive used to attach insulation to approved compatible substrates. Adhesive is applied by combining two 5 gallon box sets placed on a cart and dispensed through a combining hose. Additional adhesive may be required for rougher surfaces. Consult Product Data Sheets for additional information and for approved substrates and approved insulations.

Coverage - Typical coverage rates for the 5 gallon (18.9 L) box sets are 1,800 to 2,200 sq.ft. (167 - 204 m2). All coverage rates are based on 12 inch (30cm) on center maximum spacing. The minimum ambient and surface temperatures should be 40F (4.4C) and rising.

Approximate Set-Time - Designed to provide approximately 5 - 10 minutes of open time during a typical summer day. The open time will be shorter on hot humid days and longer on cold dry days.

Storage - For ease of application, maintain a minimum material temperature of 70°F (21°C) prior to use. Store in a cool dry location at temperatures between 55°F (12.7° C) and 85°F (29.4°C), protect from freezing at all times. Shelf life is 12 months from the date of manufacture.

#### Sarnacol OM Board Adhesive:

A low odor, VOC compliant, one step foamable polyurethane adhesive used to attach insulation to approved compatible substrates. Adhesive is applied by combining two 5 gallon box sets placed on a cart and dispensed through a combining hose or by hand with a dual component caulk gun. Additional adhesive may be required for rougher surfaces. Consult Product Data Sheets for additional information and for approved substrates and approved insulations.

Coverage - Typical coverage rates for the box sets are 10 –20 squares per 10 gallons. Typical coverage rates when using the cartridge is 4 –6 squares per case (4, 1500 ml cartridges). All coverage rates are based on 12 inch (304.8mm) on center maximum spacing. The minimum ambient and surface temperatures should be 40°F (4.4°C) and rising.

Approximate Set-Time - Designed to provide approximately 7 - 10 minutes of open time during a typical summer day. The open time will be shorter on hot humid days and longer on cold dry days.

Storage - For ease of application, maintain a minimum material temperature of 72°F (23°C) prior to use. Store in a cool dry location at temperatures between 55°F (12.7° C) and 85°F (29.4°C), protect from freezing at all times. Shelf life is 18 months from the date of manufacture.

### Insulation / Roof Board Plates

#### Sarnaplate

#### A specially-designed stress plate used with Sarnafasteners to attach insulation and/or roof boards directly to approved roof decks, Sarnaplate has a high-rib design to increase strength and to provide protection to the membrane underside from abrasion by the fastener head. Sarnaplate is a 3 inch (75 mm) square, 26 gauge stamping of SAE 1010 steel with an AZ 55 Galvalume coating to meet Factory Mutual 4470 criteria for corrosion resistance. Consult Product Data Sheet for additional information.

#### Sarnaplate - Low Profile

#### A specially-designed stress plate used with #12, HD (#14) and XP (#15) Sarnafasteners to attach insulation and/or roof boards directly to steel, wood, and concrete roof decks (not recommended for use directly over a plywood or OSB surface). Sarnaplate-Low Profile has a low profile surface to minimize telegraphing through the membrane. The low profile surface also increases bonding around the plate. Sarnaplate-Low Profile is a 2-3/4 inch (70 mm) square, 22 gauge stamping of SAE 1010 steel with an AZ -50/55 Galvalume coating to meet Factory Mutual 4470 criteria for corrosion resistance. Consult Product Data Sheet for additional information.

#### Sarnaplate - Gyptec

#### A high-strength steel plate used with Sarnafastener Gyptec to attach the insulation and/or roof boards directly to gypsum and cementitious wood fiber, Sarnaplate Gyptec is a 26 gauge, 3 inch (75 mm) diameter steel plate with a Galvalume coating to meet Factory Mutual 4470 criteria for corrosion resistance.

#### Sarnaplate - LiteDeck

#### A high-strength steel plate used with Sarnafastener Lite-Deck to attach the insulation and/or roof boards directly to gypsum or cementitious wood fiber, Sarnaplate Lite-Deck is a 26 gauge, 3 inch (75 mm) diameter steel plate with a Galvalume coating to meet Factory Mutual 4470 criteria for corrosion resistance. Consult Product Data Sheet for additional information.

### Insulation / Roof Board Fasteners

#### Sarnafastener #12

A #12 corrosion-resistant fastener used with Sarnaplates to attach insulation and/or roof boards to steel or wood roof decks. Sarnafastener #12 has a modified buttress thread, a shank diameter of approximately 0.168 inch (4 mm) and a thread diameter of approximately 0.214 inch (5 mm). The driving head has a diameter of approximately 0.435 inch (11 mm) with a #3 Phillips recess for positive engagement. Consult Product Data Sheet for additional information.

#### Sarnafastener - HD

A #14 corrosion-resistant fastener used with Sarnaplates to attach insulation and/or roof boards to structural concrete or wood roof decks. Sarnafastener-HD has a shank diameter of 0.190 inch (4.8 mm), a thread diameter of 0.245 inch (6.2 mm) and a #3 Phillips drive head with a diameter of 0.435 inch (11 mm). Consult Product Data Sheet for additional information.

#### Sarnafastener - XP

A #15 corrosion-resistant fastener used with Sarnaplates to attach insulation and/or roof boards to steel roof decks. Sarnafastener-XP has a shank diameter of approximately 0.21 inch (5.3 mm) and the thread diameter is approximately 0.26 inch (6.6 mm). The driving head has a diameter of approximately 0.435 inch (11 mm) with a #3 Phillips recess for positive engagement. Consult Product Data Sheet for additional information.

#### Sarnafastener - CD10

A nail-in, corrosion-resistant fastener used with Sarnaplates to attach insulation and/or roof boards to structural concrete, Sarnafastener-CD10 has a shank diameter of 0.215 inch (5.5 mm), a split diameter of 0.265/0.275 inch (6.7/7.0 mm) and a flat head with a 0.435 inch (11 mm) diameter. Consult Product Data Sheet for additional information.

#### Sarnafastener - Gyptec

A molded product, made of fiberglass-filled nylon, used with Sarnaplate–Gyptec to attach insulation and/or roof boards to certain gypsum and cementitious wood fiber roof decks, Sarnafastener- Gyptec has a 1 inch (25 mm) diameter head, threads have 3.5 turns per inch (138 turns/m) with a buttress design and a major diameter of 0.675” (17mm). Consult Product Data Sheet for additional information.

#### Sarnafastener - LiteDeck

A deep course threaded fastener with high pullout resistance used with Sarnaplate-LiteDeck to attach insulation and/or roof boards to gypsum and cementitious wood fiber, Sarnafastener-LiteDeck is made from carbon steel, treated with a corrosion resistant coating to meet the Factory Mutual 4470 criteria for corrosion resistance. The head is a #3 at .710” diameter and the thread is .375” diameter. The shank is .312” diameter. Consult Product Data Sheet for additional information.

**[NOTE TO SPECIFIER: A MINIMUM OF ONE PERIMETER SARNASTOP SPACED 4 FT. O.C. AND FASTEN 6 INCHES O.C. MAY BE REQUIRED FOR WARRANTY DURATIONS GREATER THAN 20 YEARS. CONSULT WITH A SIKA CORPORATION TECHNICAL SALES REPRESENATIVE.]**

### Sarnastop

An extruded aluminum, low profile bar used with certain Sarnafasteners to attach to the roof deck or to walls/curbs at terminations, penetrations and at incline changes of the substrate. Sarnastop is a 1 inch (25 mm) wide, flat aluminum bar 1/8 inch (3 mm) thick that has predrilled holes every 6 inches (152 mm) on center. Consult Product Data Sheet for additional information.

### Sarnabar

An FM-approved, heavy-duty, 14 gauge, galvanized or stainless, roll-formed steel bar used to attach membrane to roof decks. The formed steel is pre-punched with holes every 1 inch (25 mm) on center to allow various Sarnafastener spacing options. Consult Product Data Sheet for additional information.

### Sarnacord

A 5/32 inch (4 mm) diameter, red-colored, flexible thermoplastic extrusion that is welded to the top surface of the Sarnafil membrane and against the side of the Sarnabar, used to hold the membrane in position. Consult Product Data Sheet for additional information.

##### [DECK PRIMERS](#PART_2)

### Sarnavap SA Primer

A solvent-based primer used to prime structural concrete, lightweight concrete, gypsum decks, and approved gypsum boards prior to the application of Sarnavap SA or Sopralene Stick vapor retarders. Sarnavap SA Primer can be applied at temperatures of 14°F (-10°C) and above. The coverage rate will range from 163 - 400 ft2/gal (4.0 - 9.8 m2/L) for non-porous surfaces to 82 - 135 ft2/gal (2 - 3.3 m²/L) for porous surfaces. The VOC content is 644 g/L.

### Sarnavap SA Primer VC

A proprietary primer composed of synthetic polymers, solvents and resins, designed for use with Sarnavap SA or Sopralene Stick vapor retarders when adhering direct to structural concrete, lightweight concrete, gypsum decks, and approved gypsum boards. Application temperature must be 25°F (-4°C) and above. The coverage rate is 50 - 100 ft2/gal (1.2 - 2.4 m²/L) depending on surface porosity. Sarnavap SA Primer VC is VOC compliant according to OTC and EPA regulations. The VOC content is 0 g/L with exemptions.

### Sarnavap SA Primer WB

A polymer emulsion water based primer designed to improve the adhesion of Sarnavap SA or Sopralene Stick vapor retarders on structural concrete, lightweight concrete, gypsum decks, and approved gypsum boards. Application temperature must be 41°F (5°C) and above. The coverage rate will range from 163 - 400 ft2/gal (4 - 9.8 m²/L) for non-porous surfaces to 82 - 135 ft2/gal (2 - 3.3 m²/L) for porous surfaces. The VOC content is 3 g/L.

### Elastocol 500 Primer

A blend of elastomeric and bitumen solvents for use when torch applying Sopralene 180 SP 3.5 vapor retarder direct to structural concrete for improved adhesion. Elastocol 500 Primer can be applied at temperatures of 14°F (-10°C) and above. The coverage rate is 100-150 ft2/gal (2.4 - 3.6 m²/L). The VOC content is 340 g/L.

##### [VAPOR RETARDERS](#PART_2)

**[NOTE TO SPECIFIER: CONDENSATION OR MOISTURE MIGRATION INTO THE ROOF SYSTEM MUST BE CONTROLLED SO THAT IT DOES NOT COMPROMISE THE PERFORMANCE OF THE INSULATION AND OTHER COMPONENTS OF THE ASSEMBLY. MOISTURE VAPOR TENDS TO MIGRATE FROM WARMER TO COOLER AREAS. AIR/VAPOR RETARDERS ARE USED TO INHIBIT OR BLOCK THE FLOW OF WARM MOIST AIR INTO THE ROOF SYSTEM. TO DETERMINE IF AN AIR/VAPOR BARRIER IS NECESSARY, A DESIGN PROFESSIONAL WITH EXPERIENCE IN AIR HANDLING AND MOISTURE CONTROL SHOULD BE CONSULTED.**

**SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION RELATED MOISTURE. AN EXAMPLE IS THE SIGNIFICANT AMOUNT OF MOISTURE GENERATED WHEN CONCRETE FLOOR SLABS ARE POURED AFTER THE ROOF HAS BEEN INSTALLED. SIKA CORPORATION IS NOT RESPONSIBLE FOR DAMAGE TO INSULATION WHEN EXPOSED TO CONSTRUCTION RELATED MOISTURE.]**

**[NOTE TO SPECIFIER: FOR WARRANTY DURATIONS GREATER THAN 20 YEARS SARNAVAP-10 OR SARNAVAP SELF-ADHERED IS REQUIRED WHEN INTERIOR WINTER RELATIVE HUMIDITY IS GREATER THAN OR EQUAL TO 45 PERCENT AND THE JANUARY DESIGN TEMPERATURE IS LESS THAN OR EQUAL TO 40°F (4°C).]**

### Sarnavap - 10

A 10 mil (0.25 mm) thick polyethylene vapor barrier/air barrier. Sarnavap-10 is supplied in a folded panel that is rolled onto a core. The core width is 5 feet (1.5 m). When unrolled off the core and unfolded, the sheet dimensions are 20 feet (6.9 m) wide by 100 feet (33 m) long. Consult Product Data Sheet for additional information.

* + 1. Sarnavap SA

A 32 mil (0.8 mm) self-adhesive vapor barrier that can also serve as temporary roof protection. Sarnavap Self-Adhered is available in rolls 44.9 inches x 133.8 feet (1.14 x 40.8 m). Consult Product Data Sheet for additional information.

* + 1. Sopralene Stick

A 108 mil (2.74 mm) self-adhesive vapor barrier that can also serve as temporary roof protection for up to 6 months. Sopralene Stick comes in 39” (1 m) wide by 49 ft. (15 m) long rolls. The Sopralene Stick top surface can accept approved urethane adhesives for insulation or membrane attachment.

* + 1. Sopralene 180 SP 3.5

A torch applied vapor retarder with a plastic burn-off film underside and a high brush sanded topside finish. Sopralene 180 SP 3.5 is 140 mils (3.5 mm) thick and the rolls are 39” (1 m) wide by 33 ft. (10 m) long. Intended for direct torch application to primed structural concrete decks only. Requires the use of Elastocol 500 primer and the sanded topside surface can accept approved urethane adhesives for insulation or membrane attachment. The torch application allows for installation without low temperature restrictions and provides a durable, temporary roof for up to 6 months.

##### [WALKWAY PROTECTION](#PART_2)

**[NOTE TO SPECIFIER: SELECT ONE TYPE OF WALKWAY.]**

### Sarnatred-V

### A polyester reinforced, 0.096 inch (96 mil/2.4 mm), weldable membrane with surface embossment similar to a chevron pattern. Used as a protection layer from rooftop traffic. Sarnatred-V is supplied in rolls of 39 inches (1.0 m) wide and 50 feet (15 m) long. Consult Product Data Sheet for additional information.

### Crossgrip XTRA

A rolled-out walkway protection mat loose laid on top of completed roof assemblies consisting of is 9/16 inch (14 mm) thick flexible pvc with a heavily textured surface. Consult Product Data Sheet for additional information.

### Concrete Pavers

Normal weight concrete pavers specifically designed and produced for rooftop application. For large areas the use of paver pedestals or a drainage panel protection layer between the Sarnafil roof membrane and the pavers is required. For narrow walkways, a welded-in-place protection layer of Sarnafil membrane is required under the concrete pavers.

##### [MISCELLANEOUS ACCESSORIES](#PART_2)

### Sarnamatic 641mc or 661

220 volt, self-propelled, hot-air welding machine used to seal Sarnafil membrane seams.

### Aluminum Tape

A 2 inch (50 mm) wide pressure-sensitive aluminum tape used as a separation layer between small areas of asphalt contamination and the membrane and as a bond-breaker under the coverstrip at Sarnaclad joints.

### Multi-Purpose Tape

A high performance sealant tape used with metal flashings as a preventive measure against air and wind blown moisture entry.

### Perimeter Warning Tape

Designed for use on PVC membranes as a reflective, highly visible pressure sensitive tape used to draw attention to roof perimeters and potential hazardous areas. The tape is available in 2 inch wide rolls by 30 feet long and comes on a release liner for easy application. Perimeter Warning Tape exceeds reflectivity 3 requirements and Federal spec. L-S-300, Class 1.

### Perimeter Warning Membrane

The Perimeter Warning Membrane is made from Sarnafil G410 membrane, Yellow in color, and is 4” (101mm) wide and 100’ (30m) long.

### Seam Cleaner

Seam Cleaner is used on PVC membranes to clean the in the seam area only.

##### [SEALANTS AND PITCH POCKET FILLERS](#PART_2)

### Sikaflex-1a (for termination details and pitch pocket toppings).

### Sarnafiller (two-component urethane adhesive for pitch pocket toppings).

### Colply Adhesive Trowel Grade

### Is used in conjunction with all Sika Roofing supplied modified bituminous vapor retarders for detailing around penetrations and flashings. Colply Adhesive Trowel Grade meets the requirements of ASTM D3019 standards. Application temperature range is 41 - 104°F (5 - 40°C). Colply Adhesive Trowel Grade is applied at the rate of approximately 10 ft2/gal (0.2 m²/L) at 1/8” (3.1 mm) thickness. VOC content is 225 g/L.

### Depending on substrates, the following sealants are options for temporary overnight tie-ins:

#### Type III hot asphalt conforming to ASTM D312 (latest version).

#### Sarnafiller.

#### Multiple layers of roofing cement and felt.

#### Spray-applied, water-resistant urethane foam.

#### Mechanical attachment with rigid bars and compressed sealant.

##### [MISCELLANEOUS FASTENERS AND ANCHORS](#PART_2)

### All fasteners, anchors, nails, straps, bars, etc. shall be post-galvanized steel, aluminum or stainless steel. Mixing metal types and methods of contact shall be assembled in such a manner as to avoid galvanic corrosion. Fasteners for attachment of metal to masonry shall be expansion type fasteners with stainless steel pins. All concrete fasteners and anchors shall have a minimum embedment of 1-1/4 inch (32 mm) and shall be approved for such use by the fastener manufacturer. All miscellaneous wood fasteners and anchors used for flashings shall have a minimum embedment of 1 inch (25 mm) and shall be approved for such use by the fastener manufacturer.

##### [RELATED MATERIALS](#PART_2)

### Wood Nailer

Treated wood nailers shall be installed at the perimeter of the entire roof and around such other roof projections and penetrations as specified on Project Drawings. Thickness of nailers must match the insulation thickness to achieve a smooth transition. Wood nailers shall be treated for fire and rot resistance (wolmanized or osmose treated) and be #2 quality or better lumber. Creosote or asphalt-treated wood is not acceptable. Wood nailers shall conform to Factory Mutual Loss Prevention Data Sheet 1-49. All wood shall have a maximum moisture content of 19 percent by weight on a dry-weight basis.

#### Note: Wood nailers or wood blocking for snow protection system shall be installed prior to the installation of the roof membrane whenever possible.

### Plywood

**[NOTE TO SPECIFIER: FOR WARRANTY DURATIONS GREATER THAN 20 YEARS 1/2 INCH EXTERIOR GRADE CDX PLYWOOD IS REQUIRED AS A FLASHING SUBSTRATE.]**

When bonding directly to plywood, a minimum 1/2 inch (12 mm) CDX (C side out), smooth-surfaced exterior grade plywood with exterior grade glue shall be used. Rough-surfaced plywood or high fastener heads will require the use of Sarnafelt behind the flashing membrane. Plywood shall have a maximum moisture content of 19 percent by weight on a dry weight basis.

# EXECUTION

###### [PRE-CONSTRUCTION CONFERENCE](#PART_3)

### The Applicator, Owner's Representative/Designer and Manufacturer(s) shall attend a pre-construction conference.

### The meeting shall discuss all aspects of the project including but not limited to:

#### Safety

#### Set up

#### Construction schedule

#### Contract conditions

#### Coordination of the work

###### [SUBSTRATE CONDITION](#PART_3)

### Applicator shall be responsible for acceptance or provision of proper substrate to receive new roofing materials.

### Applicator shall verify that the work done under related sections meets the following conditions:

#### Roof drains and scuppers have been reconditioned or replaced and installed properly.

#### Roof curbs, nailers, equipment supports, vents and other roof penetrations are properly secured and prepared to receive new roofing materials.

#### All surfaces are smooth and free of dirt, debris and incompatible materials.

#### All roof surfaces shall be free of water, ice and snow.

###### [SUBSTRATE PREPARATION](#PART_3)

The roof deck and existing roof construction must be structurally sound to provide support for the new roof system. The Applicator shall load materials on the rooftop in such a manner as to eliminate risk of deck overload due to concentrated weight. The Owner's Representative shall ensure that the roof deck is secured to the structural framing according to local building code and in such a manner as to resist all anticipated wind loads in that location.

**[NOTE TO SPECIFIER: FOR WARRANTY DURATIONS GREATER THAN 20 YEARS ONLY NEW CONSTRUCTION AND TEAR-OFF TO STRUCTURAL DECK APPLICATIONS ARE ACCEPTABLE.]**

### New Construction

#### Steel Deck:

FM approved steel deck - The roof deck shall be 22 gauge (minimum) conforming to meet the latest revision of FM's Loss Prevention Data Sheet 1-29 and the local code's current requirements.

Non-FM approved steel deck - The roof deck shall be 24 gauge (minimum) grade D and shall conform and be installed to the local code's current requirements.

#### Wood Deck:

The roof deck shall be minimum 1-1/2 inch (38 mm) thick lumber or 15/32 inch (12 mm) thick plywood. Deck shall be installed according to local code requirements. Contact Sika Corporation Technical Department for fastening patterns and methods.

#### Poured Lightweight (Cellular) Concrete Substrate:

The lightweight concrete shall be installed by a trained lightweight concrete Applicator in accordance with the lightweight concrete manufacturer's requirements and industry practice. The surface shall be sealed with a water-based sealer accepted by the lightweight concrete manufacturer to create a surface free from dust and loose material. The wet and dry densities shall be in accordance with the manufacturer's and FM’s (if applicable) requirements. Sharp ridges or other projections above the surface shall be removed before roofing.

#### Poured Structural Concrete Deck:

The roof deck shall be installed and cured in accordance with industry standards. The surface shall have a smooth and level finish and shall be free of dust, excess moisture, oil-based curing agents and loose debris. Under no circumstances shall a sealer be used in lieu of a curing agent. Sharp ridges or other projections above the surface shall be removed before roofing.

#### Precast/Prestressed Concrete Panel Deck:

The roof deck shall be installed in accordance with the concrete panel manufacturer's requirements and industry practice. The surface shall have a smooth and level finish and shall be free of dust, moisture, oil or loose debris. All joints between precast units shall be grouted. Any differentials in height between precast units shall be feathered for a smooth transition. Sharp ridges or other projections above the surface shall be removed before roofing. Panels shall be secured to structural supports as recommended by deck manufacturer.

#### Insulating Fill Substrate:

The lightweight fill shall be installed by a trained lightweight fill Applicator in accordance with the lightweight fill manufacturer's requirements and industry practice. The surface shall be free from dust and loose fragments, be smooth, level, and free from moisture. Sharp ridges or other projections above the surface shall be removed before roofing. Proper venting as recommended by the roof deck manufacturer shall be provided. An insulation recover board may be required as a substrate to adhere to. Fastening for recover board shall be into structural deck below insulating fill (see steel/concrete deck requirements).

### Reroofing with Removal of Existing Bitumen Roofing

General Criteria

All existing roofing, base flashing, deteriorated wood blocking or deteriorated metal flashings shall be removed. Remove only that amount of roofing and flashing which can be made weathertight with new materials during a one-day period or before the onset of inclement weather.

#### Steel Deck:

FM Approved Steel Deck - All rusted or deteriorated decking shall be brought to the attention of the Owner's Representative and FM to determine method of treatment or replacement. Surface-only rusted metal shall be sanded and treated with rust-inhibiting paint. Sections that have rusted deeper than the surface or are not structurally sound shall be removed and replaced. The use and type of steel roof deck construction shall conform to FM's recommendations as outlined in FM Loss Prevention data Sheet I-29 and local requirements.

Non-FM Approved Steel Deck - All rusted or deteriorated decking shall be brought to the attention of the Owner's Representative to determine method of treatment or replacement. Surface-only rusted metal shall be sanded and treated with rust-inhibiting paint. Sections that have rusted deeper than the surface or are not structurally sound shall be removed and replaced. Deck type shall match existing and the attachment shall conform to local code requirements.

#### Wood Deck:

All rotted or deteriorated wood shall be removed and replaced. The deck thickness shall be 1-1/2 inch (38 mm) lumber or 15/32 (12 mm) plywood or match existing deck if greater. Deck type and attachment shall conform to local code requirements. Fastener heads shall be recessed into the wood surface.

#### Poured Structural Concrete Deck:

The roof deck shall be smooth, even, free of dust, dirt, excess moisture or oil and be structurally sound. Sharp ridges, other projections and accumulations of bitumen above the surface shall be removed to ensure a smooth surface before roofing. Any deteriorated decking shall be repaired.

#### Poured Lightweight Concrete Substrate:

The roof deck shall be smooth, even, free of dust, dirt, excess moisture or oil and be structurally sound. Sharp ridges, other projections and accumulations of bitumen above the surface shall be removed to ensure a smooth surface before roofing. Any deteriorated decking shall be repaired.

#### Precast/Prestressed Concrete Deck:

The roof deck shall be smooth, even, free of dust, dirt, excess moisture or oil and be structurally sound. All joints between precast units shall be grouted. Any differentials in height between precast units shall be feathered for a smooth transition. Any deteriorated decking shall be repaired.

#### Insulating Fill Substrate:

All wet or deteriorated insulating fill shall be removed and replaced. All accumulations of bitumen shall be removed and the surface of the deck shall be smooth, and free of ridges and depressions. See steel/concrete requirements.

### Reroofing with Removal of Existing Single-Ply Roofing

General Criteria:

The Owner's Representative and Applicator shall determine the condition of the roof deck and existing insulation. Deteriorated decking or wet or deteriorated materials are to be removed and replaced. After removal of single-ply roof, inspect insulation boards and reuse only if dry and in stable condition. Add a Sika Corporation approved recover board or new insulation board. Fasten recover board or top layer of insulation in accordance with Sika Corporation's requirements.

### Reroofing Over Existing Single Ply Roofing

General Criteria:

The Owner's Representative and Applicator shall determine the condition of the roof deck and existing insulation. Deteriorated decking or wet or deteriorated materials are to be removed and replaced. Remove all debris from the existing single-ply roof and cut into 10 ft x 10 ft panels (3 m x 3 m). Install a layer of a Sika Corporation approved recover board or a new insulation board over the fastened 10 ft x 10 ft (3 m x 3 m) panels and then fasten the board according to Sika Corporation's requirements.

### Reroofing Over Existing Bitumen Roofing

General Criteria:

The Owner's Representative and Applicator shall determine the condition of the existing roof deck and old roof system. Areas with deteriorated decking or wet materials are to be removed and replaced.

#### On graveled surfaces, all loose gravel and debris shall be removed by power brooming or vacuuming. All blisters shall be removed and sealed or cut, fastened down and sealed. Any accumulation of bitumen or other irregularities shall be scratched and removed so as to produce a smooth surface.

#### On smooth surfaced roofs, the surface must be clean and dry. All blisters shall be removed and sealed or cut, fastened down and sealed. For Type III hot asphalt attachment of new insulation board, priming of the old roof surface after preparation is necessary.

#### Coal-tar pitch or heavily resaturated roofs may require removal. Contact Sika Corporation Technical for coal-tar pitch or heavily resaturated reroof preparation requirements.

###### [SUBSTRATE INSPECTION](#PART_3)

### A dry, clean and smooth substrate shall be prepared to receive the Sarnafil Adhered roof system.

### The Applicator shall inspect the substrate for defects such as excessive surface roughness, contamination, structural inadequacy, or any other condition that will adversely affect the quality of work.

### The substrate shall be clean, smooth, dry, free of flaws, sharp edges, loose and foreign material, oil and grease. Roofing shall not start until all defects have been corrected.

### All roof surfaces shall be free of water, ice and snow.

### Sarnafil shall be applied over compatible and accepted substrates only.

###### [VAPOR RETARDER INSTALLATION](#PART_3)

General Criteria:

Interior (inside temperature/relative humidity) or exterior conditions may create a need for a vapor barrier. The design professional shall decide whether a vapor barrier is necessary. It is the design professional's responsibility to determine the type and location of a vapor barrier. If sealed properly, a vapor barrier can also act as an air barrier (positive pressure) for roofs intended over air-permeable decks (steel, wood, precast, etc.). When reroofing over the existing asphalt roof, the old roof may be considered to be an adequate vapor barrier/air barrier if the details are properly sealed.

1. Sarnavap - 10

#### Sarnavap - 10 is loose laid over suitable substrates.

#### Overlap all edges 4” (102 mm) and seal with Sika Multi-Purpose Tape.

#### Extend Sarnavap - 10 to the perimeter and deck penetrations and seal to provide continuity of the air/vapor envelope. Sarnavap - 10 must be sealed on the vertical surface at roof penetrations also.

#### Seams and penetrations are sealed with Sika Multi-Purpose tape.

1. Sarnavap SA

#### Sarnavap SA requires one of the primers designated for use with the self-adhered vapor retarders. Shake or stir primer before applying. Primers can be rolled, brushed or sprayed. Primer is not required on steel. Let the primer dry completely.

#### Install Sarnavap SA over a clean dry substrate. When installing the product begin at the bottom of the slope. Unroll Sarnavap SA onto the substrate for alignment. Overlap each sheet by 3” (75 mm) on the side lap and 6” (152 mm) on the end laps. Stagger end laps by at least 12” (304 mm).

#### When aligned, peel back a portion of the silicone release sheet and press the membrane onto the substrate. When securely adhered continue pulling the release sheet diagonally.

#### Use a minimum 100 lb. (45 kg) steel roller to press the Sarnavap SA membrane down onto the substrate including the laps. Use the roller to push out any air bubbles out to the edge of the membrane. Do not cut the membrane to remove a bubble.

#### Apply Colply Adhesive Trowel Grade to seal around penetrations. With a trowel, mound the adhesive around the penetrations sufficiently to seal the opening. Do not apply Colply Adhesive Trowel Grade where it may ultimately come into contact with the PVC membrane.

1. Sopralene Stick

#### Sopralene Stick requires one of the primers designated for use with the self-adhered vapor retarders. Shake or stir primer before applying. Primers can be rolled, brushed or sprayed. Primer is not required on steel. Let the primer dry completely.

#### After the primer has dried completely, unroll, position, and align the length of self-adhered vapor retarder at the lowest point of the roof with the release poly covered selvage edge on the up-slope side.

#### After the sheet is placed in its final position, re-roll so that one-half of the sheet is rolled up. Using a straight blade utility knife, carefully score the release poly across the width of the roll.

#### Roll the self-adhered vapor retarder into its final position as the release poly is being removed. Re-roll the remaining section of the self-adhered vapor retarder and repeat the process. Roll with 100 lb. (45 kg) steel roller to ensure full contact with the substrate.

#### Align successive sheets with 3” (76 mm) wide side laps and 6” (152 mm) wide end laps. Seam area has a pre-applied primer/adhesive for mating with the bottom of the next sheet. Remove the poly backing on the seam area and mate the top sheet to the bottom. Roll the seam area to insure constant contact. End laps are to be hot air welded. Hot air welded laps must have a minimum of ½” (13 mm) bleed out.

#### Apply Colply Adhesive Trowel Grade to seal around penetrations. With a trowel, mound the adhesive around the penetrations sufficiently to seal the opening. Do not apply Colply Adhesive Trowel Grade where it may ultimately come into contact with the PVC membrane.

1. Sopralene 180 SP 3.5 (Torch Applied)

#### **Torch applied products should only be installed by trained personnel. It is imperative that the NRCA safety guidelines, as outlined in their Certified Roofing Torch Applicator Program (CERTA), and good industry practices be followed.**

#### Sopralene 180 SP 3.5 requires Elastocol 500 Primer to be used on concrete substrates. Apply Elastocol 500 Primer with a roller, brush or spray and let dry completely.

#### After the primer has dried completely, install Sopralene 180 SP 3.5 vapor retarder in a shingle fashion (starting at the low point so the laps will properly shed water).

#### Unroll the first roll of vapor retarder and align the side lap. Back roll the sheet halfway. Begin torching the bottom side of the vapor retarder. As the membrane begins to soften begin pulling the roll forward with a metal pole. When heated properly there should be a bleed out of approximately ½” (13 mm). Back roll the other half of the roll and repeat the process.

#### Kick out the next roll and align the side lap. Side laps must be a minimum of 3” (76 mm). End laps should be a minimum of 6” (152 mm). Stagger the end laps a minimum of 12” (304 mm). When heating the membrane move the torch in an ‘ L ’ pattern to insure heating of the lap area on the bottom sheet. Proper heating will create a minimum ½” (13 mm) bleed out.

#### Walk in the seam area or use a weighted roller to insure proper adhesion and bleed out.

#### Before heating cut the lower outside corner of the end lap at a 45 degree angle to minimize material buildup at membrane intersection.

#### Ensure that all laps are firmly and smoothly adhered. Ensure no wrinkles, voids or fishmouths are present. Check the seams with the edge of a trowel. Any loose areas should be lifted with the trowel, re-heated and pushed back down to achieve the necessary bleed out.

#### Apply Colply Adhesive Trowel Grade to seal around penetrations. With a trowel, mound the adhesive around the penetrations sufficiently to seal the opening. Do not apply Colply Adhesive Trowel Grade where it may ultimately come into contact with the PVC membrane.

#### **Do NOT torch apply Sopralene 180 SP 3.5 to combustible substrates or substrates with a combustible backing.**  In such locations Sopralene Stick must be used.

###### [WOOD NAILER INSTALLATION](#PART_3)

### Install continuous wood nailers at the perimeter of the entire roof and around roof projections and penetrations as shown on the Detail Drawings.

### Nailers shall be anchored to resist a minimum force of 300 pounds per lineal foot (4,500 Newtons per lineal meter) in any direction. Individual nailer lengths shall not be less than 3 feet (0.9 meter) long. Nailer fastener spacing shall be at 12 inches (0.3 m) on center or 16 inches (0.4 m) on center if necessary to match the structural framing. Fasteners shall be staggered 1/3 the nailer width and installed within 6 inches (0.15 m) of each end. Two fasteners shall be installed at ends of nailer lengths. Nailer attachment shall also meet the requirements of the current Factory Mutual Loss Prevention Data Sheet 1-49.

### Thickness shall be as required to match substrate or insulation height to allow a smooth transition.

### Any existing nailer woodwork which is to remain shall be firmly anchored in place to resist a minimum force of 300 pounds per lineal foot (4,500 Newtons per lineal meter) in any direction and shall be free of rot, excess moisture or deterioration. Only woodwork shown to be reused in Detail Drawings shall be left in place. All other nailer woodwork shall be removed.

### Stainless steel, corrosion resistant, fasteners are required when mechanically attaching any Sika Corporation product to wood nailers and wood products treated with ACQ (Alkaline copper Quaternary). When ACQ treated wood is used on steel roof decks or with metal edge detailing, a separation layer must be placed between the metal and ACQ treated wood.

###### [INSULATION / ROOF BOARD INSTALLATION](#PART_3)

General Criteria:

#### **For Factory Mutual insured buildings polystyrene insulation may not be applied direct to steel deck.**

#### Fasteners Insulation shall be installed according to insulation manufacturer's instructions.

#### Use Insulation shall be neatly cut to fit around penetrations and projections.

#### For Install tapered insulation in accordance with insulation manufacturer's shop drawings.

#### Insulation shall be installed according to insulation manufacturer's instructions.

#### Do not install more insulation board than can be covered with Sarnafil membrane by the end of the day or the onset of inclement weather.

#### Use at least 2 layers of insulation when the total insulation thickness exceeds 2-1/2 inches (64 mm). Stagger joints at least 12 inches (0.3 m) between layers.

### Mechanical Attachment

#### Boards shall be mechanically fastened to the deck with approved fasteners and plates at a rate according to the board manufacturer's and Sika Corporation's recommendations for fastening rates and patterns. The quantity and locations of the fasteners and plates shall also cause the boards to rest evenly on the roof deck/substrate so that there are no significant and avoidable air spaces between the boards and the substrate.

#### Fasteners must be tight enough so plates do not turn, but not so tight as to deform them.

#### Fasteners are to be installed consistently in accordance with fastener manufacturer's recommendations. Fasteners are to have minimum penetration into structural deck recommended by the fastener manufacturer and Sika Corporation.

#### Use fastener tools with a depth locator and torque-limiting attachment as recommended or supplied by fastener manufacturer to ensure proper installation.

### Sarnacol 2163 Adhesive

#### All work surfaces should be clean, dry, free of dirt, dust, debris, oils and other contaminants that may result in a surface that is not sound or is uneven.

#### With a utility knife, cut away the plastic plugs from the Sarnacol 2163 mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. At the beginning of the tube, some of the material should be pumped out initially to make sure of a proper mix. Apply using a gravity fed applicator or by hand with a dual component caulk gun over properly installed and prepared substrates in bands of 1/4 to 1/2 inch (6 to 13 mm) wide before foaming. Adhesive will transform from a liquid into a low rise foam. Immediately set insulation boards into foamed adhesive. Do not allow the adhesive to skin over. Walk insulation boards into place to ensure full embedment. CAUTION: Walking insulation boards in immediately after placement into adhesive may cause slippage/movement until adhesive starts to set up. On roof slopes greater than 1/2 inch (13 mm) in 12 inches (305 mm), begin adhering insulation at low point and work upward to avoid slippage. One person should be designated to walk in, trim/slit and apply weight to all insulation boards to ensure adequate securement. Only areas that can be made completely watertight in the same day’s operations shall be coated. Un-used adhesive can be applied at a later date by simply replacing the mixing tip.

Consult Product Data sheet for additional information on approved substrates, approved insulation or roof boards, and additional installation guidelines.

### Sarnacol AD Board Adhesive

#### All work surfaces should be clean, dry, free of dirt, dust, debris, oils and other contaminants that may result in a surface that is not sound or is uneven.

#### Install Part A and Part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B). All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state. Apply the Sarnacol AD Board Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to begin to rise before placing the insulation or roof board into the adhesive. The adhesive is designed to provide approximately 5 - 10 minutes of open time during a typical summer day. CAUTION: Walking insulation boards in immediately after placement into adhesive may cause slippage/movement until adhesive starts to set up. On roof slopes greater than 1/2 inch (13 mm) in 12 inches (305 mm), begin adhering insulation at low point and work upward to avoid slippage. One person should be designated to walk in, trim/slit and apply weight to all insulation boards to ensure adequate securement. Only areas that can be made completely watertight in the same day’s operations shall be coated.

Consult Product Data sheet for additional information on approved substrates, approved insulation or roof boards, and additional installation guidelines.

### Sarnacol OM Board Adhesive

#### All work surfaces should be clean, dry, free of dirt, dust, debris, oils and other contaminants that may result in a surface that is not sound or is uneven.

#### PaceCart2 Installation:

#### Install Part A and part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B). All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state. Apply the Sarnacol OM Board Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide wet beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to turn to a pink color (normally 7-10 minutes) before placing the insulation or roof board into the adhesive. The adhesive is designed to provide approximately 10-15 minutes of open time during a typical summer day.

#### SpotShot Applicator:

#### Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. When starting a new tube, some of the material should be pumped out initially into a bucket or other suitable receptacle to make sure of a proper mix. Apply the Sarnacol OM Board Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide wet beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to turn to a pink color (normally 10-15 minutes) before placing the insulation or roof board into the adhesive. The adhesive is designed to provide approximately 7-10 minutes of open time during a typical summer day. CAUTION: Walking insulation boards in immediately after placement into adhesive may cause slippage/movement until adhesive starts to set up. On roof slopes greater than 1/2 inch (13 mm) in 12 inches (305 mm), begin adhering insulation at low point and work upward to avoid slippage. One person should be designated to walk in, trim/slit and apply weight to all insulation boards to ensure adequate securement. Only areas that can be made completely watertight in the same day’s operations shall be coated.

Consult Product Data sheet for additional information on approved substrates, approved insulation or roof boards, and additional installation guidelines.

### Attachment with hot Type III asphalt:

#### Insulation shall be adhered to the concrete deck or another approved substrate with hot Type III asphalt according to the asphalt manufacturer's instructions. The temperature of the asphalt shall be at the asphalt manufacturers instructions for EVT. The asphalt temperature and application methodology shall be maintained throughout the installation as recommended by the asphalt manufacturer, the NRCA and ARMA. The installation shall be such to cause the insulation boards to rest evenly on the roof deck/substrate so that there are no significant and avoidable air spaces between the boards and the substrate. The maximum insulation board size with hot-asphalt attachment is 4 ft x 4 ft (1.2 m x 1.2 m). Each insulation board shall be installed tightly against the adjacent boards on all sides and walked-in-place to assure even and consistent contact with the substrate. Aluminum tape shall be installed over joints where asphalt has been pushed to the board's surface.

#### When hot asphalt is used to attach the insulation board to the deck, a Sarnabar shall be installed above the adhered roof membrane 4 ft (1.3 m) from the edge of the roof along the entire perimeter. The Sarnabar shall be fastened 12 inches (0.3 m) on center and a membrane cover strip is welded over it.

###### [INSTALLATION OF SARNAFIL MEMBRANE](#PART_3)

The surface of the insulation or substrate shall be inspected prior to installation of the Sarnafil roof membrane. The substrate shall be clean, dry, free from debris and smooth with no surface roughness or contamination. Broken, delaminated, wet or damaged insulation boards shall be removed and replaced.

### Sarnacol 2170 / 2170 VC Adhesive:

#### Over the properly installed and prepared substrate surface, adhesive shall be applied using solvent-resistant 3/4 inch (19 mm) nap paint rollers. The adhesive shall be applied to the substrate at a rate according to Sika Corporation requirements. No adhesive is applied to the back of the Sarnafil G410 feltback membrane. The adhesive shall be applied in smooth, even coats with no gaps, globs, puddles or similar inconsistencies. Only an area which can be completely covered in the same day’s operations shall be coated with adhesive. The first layer of adhesive shall be allowed to dry completely prior to installing a second layer of adhesive and the membrane.

#### The Sarnafil G410 feltback roof membrane is unrolled immediately into a second layer of wet adhesive. Adjacent to that first installed roll of membrane, another second layer of wet adhesive is applied and the second roll of membrane is immediately unrolled into it, overlapping the first roll by 3 inches (75 mm). This process is repeated throughout the roof area. Immediately after application into adhesive, the bonded sheet shall be pressed firmly in place with a minimum 100 lb (45 kg) steel, membrane roller, by rolling in two directions.

#### **Do not allow the second application of adhesive to dry at all!**

#### Weld Sarnafil G410 coverstrips at all Sarnafil G410 feltback seams that do not have a factory selvage edge.

Notes:

The Applicator shall count the amount of pails of adhesive used per area per day to verify conformance to the specified adhesive rate.

Do not install when air temperature is within 5° of dew point. Solvent evaporation time increases significantly when temperatures drop.

No adhesive shall be applied in seam areas. All membrane shall be applied in the same manner.

### Sarnacol 2121 Adhesive:

Installation Method A Squeegee:

#### Over the properly installed and prepared substrate, Sarnacol 2121 adhesive shall be poured out of the pail and spread using notched 1/4 x 1/4 x 1/4 inch (6 x 6 x 6 mm) rubber squeegees. The adhesive shall be applied at a rate according to Sika Corporation requirements. No adhesive is applied to the back of the Sarnafil G410 feltback membrane. Do not allow adhesive to skin-over or surface-dry prior to installation of Sarnafil G410 feltback membrane.

#### Immediately unroll Sarnafil G410 feltback roof membrane carefully into wet adhesive. Adjacent rolls overlap previous rolls by 3 inches (75 mm). This process is repeated throughout the roof area. The membrane is then immediately broomed into place with a medium bristle push broom to work out any air bubbles. Push the broom down the center of the sheet followed by brooming out from the center on both sides. Immediately after brooming, roll the membrane in two directions with a minimum 100 lb (45 kg), steel, membrane roller. Clean any adhesive residue on the seams while still wet and before welding. If the adhesive dries in the seam it will require a solvent to clean it.

#### Weld Sarnafil G410 coverstrips at all Sarnafil G410 feltback seams that do not have a factory selvage edge.

Installation Method B Roller:

#### Over the properly installed and prepared substrate, Sarnacol 2121 adhesive shall be poured out of the pail and spread using a medium nap roller. The adhesive shall be applied at a rate according to Sika Corporation requirements. No adhesive is applied to the back of the Sarnafil G410 feltback membrane. Do not allow adhesive to skin-over or surface-dry prior to installation of Sarnafil G410 feltback membrane.

#### Immediately unroll Sarnafil G410 feltback roof membrane carefully into wet adhesive. Adjacent rolls overlap previous rolls by 3 inches (75 mm). This process is repeated throughout the roof area. The membrane is then immediately broomed into place with a medium bristle push broom to work out any air bubbles. Push the broom down the center of the sheet followed by brooming out from the center on both sides. Immediately after brooming, roll the membrane in two directions with a minimum 100 lb (45 kg), steel, membrane roller. Clean any adhesive residue on the seams while still wet and before welding. If the adhesive dries in the seam it will require a solvent to clean it.

#### Weld Sarnafil G410 coverstrips at all Sarnafil G410 feltback seams that do not have a factory selvage edge.

Installation Method C Spray:

#### Over the properly installed and prepared substrate, Sarnacol 2121 adhesive shall be applied using an airless spray applicator. The adhesive shall be applied at a rate according to Sika Corporation requirements. No adhesive is applied to the back of the Sarnafil G410 feltback membrane. Do not allow adhesive to skin-over or surface-dry prior to installation of Sarnafil G410 feltback membrane.

#### Immediately unroll Sarnafil G410 feltback roof membrane carefully into wet adhesive. Adjacent rolls overlap previous rolls by 3 inches (75 mm). This process is repeated throughout the roof area. The membrane is then immediately broomed into place with a medium bristle push broom to work out any air bubbles. Push the broom down the center of the sheet followed by brooming out from the center on both sides. Immediately after brooming, roll the membrane in two directions with a minimum 100 lb (45 kg), steel, membrane roller. Clean any adhesive residue on the seams while still wet and before welding. If the adhesive dries in the seam it will require a solvent to clean it.

#### Weld Sarnafil G410 coverstrips at all Sarnafil G410 feltback seams that do not have a factory selvage edge.

Notes:

Sarnacol 2121 shall not be used if temperatures below 40°F (5°C) are expected during application or subsequent drying time.

No adhesive shall be applied in seam areas. All membrane shall be applied in the same manner.

Care must be taken to insure that the adhesive has not dried before the membrane is laid in place. This is especially important during hot temperatures. Adjustments may be needed in the application technique to insure a wet lay in. It is recommended that only 6-10 feet (2-3 m) at a time is coated out ahead of the membrane to prevent dry laid membrane.

Sarnacol 2121 shall not be used on vertical surfaces or sloped surfaces greater than a 2 inch (50 mm) rise per 1 horizontal foot (0.3 m).

The above installation instructions for squeegee, roller and spray are a condensed version for the specifications. Before installing the membrane with Sarnacol 2121, read the complete instructions detailed in the technical bulletin “07-12 Sarnacol 2121 Application Guide”.

### Sarnacol AD Feltback Membrane Adhesive:

Application rates vary depending on surface roughness, absorption rate of the substrate, and wind speed approvals. Typical coverage rates for the box sets are 10 –20 squares per 10 gallons. Typical cover- age rates when using the cartridge is 4 –6 squares per case (4, 1500 ml cartridges). All coverage rates are based on 12 inch (304.8mm) on center maximum spacing.

#### Box Sets:

#### Install Part A and Part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B). All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state. Apply the Sarnacol AD Feltback Membrane Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to begin to rise before placing the feltback membrane into the adhesive. The adhesive is designed to provide approximately 5 - 10 minutes of open time during a typical summer day.

#### Cartridge Application:

#### Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. When starting a new tube, some of the material should be pumped out initially into a bucket or other suitable receptacle to make sure of a proper mix. Apply the Sarnacol AD Feltback Membrane Adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to begin to rise before placing the feltback membrane into the adhesive. The adhesive is designed to provide approximately 5-10 minutes of open time during a typical summer day.

### Sarnacol OM Feltback Membrane Adhesive:

Application rates vary depending on surface roughness, absorption rate of the substrate, and wind speed approvals. Typical coverage rates for the box sets are 10 –20 squares per 10 gallons. Typical cover- age rates when using the cartridge is 4 –6 squares per case (4, 1500 ml cartridges). All coverage rates are based on 12 inch (304.8mm) on center maximum spacing.

#### PaceCart2 Installation:

#### Install Part A and part B components following instructions on the packaging. Always insure that the Part A and Part B containers are always hooked to the same dispensing holders or hoses (i.e. do not reverse the dispenser holders and hoses between Part A and Part B). All valves on the dispensing unit must be completely opened so a 1:1 ratio is achieved when moving the adhesive through the disposable mix tip and onto the substrate in a semi-liquid state. Apply the adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. . Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to turn to a caramel color (normally 10-15 minutes) before placing the Feltback membrane into the adhesive. The adhesive is designed to provide approximately 10-15 minutes of open time during a typical summer day. The membrane must be positioned and rolled into place quickly. A heavy steel roller must be used to roll the membrane.

#### SpotShot Applicator:

#### Remove the plastic plugs from the cartridge mixing head. Attach a mixing tip to the threaded mixing head. Place the cartridge into the applicator. When starting a new tube, some of the material should be pumped out initially into a bucket or other suitable receptacle to make sure of a proper mix. Apply the Sarnacol OM adhesive directly to the substrate, using a ribbon pattern. Space the 1 in. (25 mm) wide beads at a maximum of 12 in. (30 cm) o.c. to achieve proper coverage rate. Actual ribbon spacing will depend on the wind uplift rating required. Allow the adhesive to turn to a caramel color (normally 10-15 minutes) before placing the Feltback membrane into the adhesive. The adhesive is designed to provide approximately 10-15 minutes of open time during a typical summer day. The membrane must be positioned and rolled into place quickly. A heavy steel roller must be used to roll the membrane. Unused adhesive can be applied at a later date by simply replacing the mixing tip.

###### [HOT-AIR WELDING OF SEAM OVERLAPS](#PART_3)

### General

#### All seams shall be hot-air welded. Seam overlaps should be 3 inches (76 mm) wide when automatic machine-welding and 4 inches (100 mm) wide when hand-welding, except for certain details.

#### Welding equipment shall be provided by or approved by Sika Corporation. All mechanics intending to use the equipment shall have successfully completed a training course provided by a Sika Corporation Technical Service Representative prior to welding.

#### All membrane to be welded shall be clean and dry.

### Hand-Welding

Hand-welded seams shall be completed in two stages. Hot-air welding equipment shall be allowed to warm up for at least one minute prior to welding.

#### The back edge of the seam shall be welded with a narrow but continuous weld to prevent loss of hot air during the final welding.

#### The nozzle shall be inserted into the seam at a 45 degree angle to the edge of the membrane. Once the proper welding temperature has been reached and the membrane begins to "flow”, the hand roller is positioned perpendicular to the nozzle and rolled lightly. For straight seams, the 1-1/2 inch (40 mm) wide nozzle is recommended for use. For corners and compound connections, the 3/4 inch (20 mm) wide nozzle shall be used.

### Machine Welding

#### Machine welded seams are achieved by the use of Sika Corporation's automatic welding equipment. When using this equipment, Sika Corporation's instructions shall be followed and local codes for electric supply, grounding and over current protection observed. Dedicated circuit house power or a dedicated portable generator is recommended. No other equipment shall be operated simultaneously off the generator.

#### Metal tracks may be used over the deck membrane and under the machine welder to minimize or eliminate wrinkles.

### Quality Control of Welded Seams

#### The Applicator shall check all welded seams for continuity using a rounded screwdriver. Visible evidence that welding is proceeding correctly is smoke during the welding operation, shiny membrane surfaces, and an uninterrupted flow of dark gray material from the underside of the top membrane. On-site evaluation of welded seams shall be made daily by the Applicator at locations as directed by the Owner's Representative or Sika Corporation's representative. One inch (25 mm) wide cross-section samples of welded seams shall be taken at least three times a day. Correct welds display failure from shearing of the membrane prior to separation of the weld. Each test cut shall be patched by the Applicator at no extra cost to the Owner.

###### [MEMBRANE FLASHINGS](#PART_3)

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Approval shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing, the affected area shall be removed and replaced at the Applicator's expense. Flashing shall be adhered to compatible, dry, smooth, and solvent-resistant surfaces. Use caution to ensure adhesive fumes are not drawn into the building.

### Sarnacol Adhesive for Membrane Flashings

#### Over the properly installed and prepared flashing substrate, the Sarnacol adhesive shall be applied in smooth, even coats with no gaps, globs or similar inconsistencies. Only an area which can be completely covered in the same day's operations shall be flashed. The bonded sheet shall be pressed firmly in place with a hand roller.

#### No adhesive shall be applied in seam areas that are to be welded. All panels of membrane shall be applied in the same manner, overlapping the edges of the panels as required by welding techniques.

### Install Sarnastop/Sarnabar/Sarnacord according to the Detail Drawings with approved fasteners into the structural deck at the base of parapets, walls and curbs. Sarnastop is required by Sika Corporation at the base of all tapered edge strips and at transitions, peaks, and valleys according to Sika Corporation's details.

### Sika Corporation's requirements and recommendations and the specifications shall be followed. All material submittals shall have been accepted by Sika Corporation prior to installation.

### All flashings should extend a minimum of 8 inches (0.2 m) above roofing level, exceptions to this might be pipe boots and/or sealant pockets, etc. If in question, submit in writing to the Owner's Representative and Sika Corporation Technical Department for signed approval.

### All flashing membranes shall be consistently adhered to substrates. All interior and exterior corners and miters shall be cut and hot-air welded into place. No bitumen shall be in contact with the Sarnafil membrane.

### All flashing membranes shall be mechanically fastened along the counter-flashed top edge with Sarnastop at 6 to 8 inches (0.15 to 0.20 m) on center.

### Sarnafil flashings shall be terminated according to Sika Corporation recommended details.

### All adhered flashings that exceed 30 inches (0.75 m) in height shall receive additional securement. Consult Sika Corporation Technical Department for securement methods.

###### [METAL FLASHINGS](#PART_3)

### Metal details, fabrication practices and installation methods shall conform to the applicable requirements of the following:

#### Factory Mutual Loss Prevention Data Sheet 1-49 (latest issue).

#### Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - latest issue.

### Metal, other than that provided by Sika Corporation, is not covered under the Sika Corporation warranty.

### Complete all metal work in conjunction with roofing and flashings so that a watertight condition exists daily.

### Metal shall be installed to provide adequate resistance to bending to allow for normal thermal expansion and contraction.

### Metal joints shall be watertight.

### Metal flashings shall be securely fastened into solid wood blocking. Fasteners shall penetrate the wood nailer a minimum of 1 inch (25 mm).

### Airtight and continuous metal hook strips are required behind metal fascias. Hook strips are to be fastened 12 inches (0.3 m) on center into the wood nailer or masonry wall.

### Counter flashings shall overlap base flashings at least 4 inches (100 mm).

### Hook strips shall extend past wood nailers over wall surfaces by 1-1/2 inch (38 mm) minimum and shall be securely sealed from air entry.

###### [SARNACLAD METAL BASE FLASHINGS/EDGE METAL](#PART_3)

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.

Cut Sarnafil feltback membrane at the roof perimeter edge. Weld one side of a Sarnafil membrane flashing strip (not feltback) along the perimeter edge to the top of the cut feltback membrane. Position membrane flashing over roof edge and down outside face of wall covering the wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend beyond the wood nailer(s). Hot-air weld all seams making sure there are no voids in welds.

### Sarnaclad metal flashings shall be formed and installed per the Detail Drawings.

#### All metal flashings shall be fastened into solid wood nailers with two rows of post galvanized flat head annular ring nails, 4 inches (100 mm) on center staggered. Fasteners shall penetrate the nailer a minimum of 1 inch (25 mm).

#### Metal shall be installed to provide adequate resistance to bending and allow for normal thermal expansion and contraction.

### Adjacent sheets of Sarnaclad shall be spaced 1/4 inch (6 mm) apart. The joint shall be covered with 2 inch (50 mm) wide aluminum tape. A 4 inch minimum (100 mm) wide strip of Sarnafil flashing membrane shall be hot-air welded over the joint. Exercise caution at perimeter of roof.

###### [EDGE METAL](#PART_3)

All flashings shall be installed concurrently with the roof membrane as the job progresses. No temporary flashings shall be allowed without the prior written approval of the Owner's Representative and Sika Corporation. Acceptance shall only be for specific locations on specific dates. If any water is allowed to enter under the newly completed roofing due to incomplete flashings, the affected area shall be removed and replaced at the Applicator's expense.

Cut Sarnafil feltback membrane at the roof perimeter edge. Weld one side of a Sarnafil membrane flashing strip (not feltback) along the perimeter edge to the top of the cut feltback membrane. Position membrane flashing over roof edge and down outside face of wall covering the wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend beyond the wood nailer(s). Hot-air weld all seams making sure there are no voids in welds.

### Edge Grip Fascia

### Position the roof membrane over edge of roof and down outside face of wall covering wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend down past the wood nailer. Hot-air weld all seams making sure there are no voids in welds.

### Apply a 3/8 inch (10 mm) continuous bead of Sikaflex – 1a sealant to the clean bottom of formed retainer. Install formed retainer from right to left as seen from rooftop. Overlap joints of straight run sections a minimum of 1 inch (25 mm) and corner sections a minimum of 5 inches (127 mm). Field cut sections as necessary.

### Fasten formed retainer into side of nailer 12 inches (0.3 m) on center. Use fasteners provided with Edge Grip system; 1-1/2 inch (38 mm) hex head stainless steel fasteners with neoprene washers.

### Fasteners shall provide a minimum 240 lbs. (109 kg) pull-out resistance; suitable for the substrates to which being installed.

### Install concealed joint splice plates intersecting sections of snap-on fascia cover joints.

### Position snap-on fascia cover so that it’s top engages the formed retainer top. Rotate downward engaging bottoms of snap-on fascia cover and formed retainer. Allow 1/4 inch (6 mm) gap between snap-on fascia sections for thermal expansion. Field cut where necessary.

### Edge Grip Extruded Fascia

### Position the roof membrane over edge of roof and down outside face of wall covering wood nailer(s) completely. Allow 1/2 inch (13 mm) of excess membrane to extend down past the wood nailer. Hot-air weld all seams making sure there are no voids in welds.

### Apply a 3/8 inch (10 mm) continuous bead of Sikaflex – 1a sealant to the clean bottom of heavy-duty extruded retainer. Install extruded retainer from right to left as seen from rooftop. Field cut sections as necessary.

### Install retainer splice under intersecting sections of extruded retainer.

### Fasten extruded retainer into side of nailer 12 inches (0.3 m) on center. Use fasteners provided with Edge Grip Extruded system; 1-1/2 inch (38 mm) hex head stainless steel fasteners with neoprene washers. Allow 1/8 inch (3 mm) gap between extruded retainer sections for thermal expansion [1/4 inch (6 mm) if temperature is below 40°F (4°C)].

### Fasteners shall provide a minimum 240 lbs. (109 kg) pull-out resistance; suitable for the substrates to which being installed.

### Install concealed joint splice plates at intersecting sections of snap-on fascia cover joints.

### Position snap-on fascia cover so that it’s top engages the extruded retainer top. Rotate downward engaging bottoms of snap-on fascia cover and extruded retainer base plate. Allow 1/4 inch (6 mm) gap between snap-on fascia sections for thermal expansion. Field cut where necessary.

###### [WALKWAY INSTALLATION](#PART_3)

### Sarnatred-V

Roofing membrane to receive Sarnatred-V shall be clean and dry. Place chalk lines on deck sheet to indicate location of Sarnatred-V. Apply a continuous coat of Sarnacol 2170 or 2170 VC adhesive to the deck sheet and the back of Sarnatred-V in accordance with Sika Corporation's technical requirements and press Sarnatred-V into place with a minimum 100 lb (45 kg) steel, membrane roller, by rolling in two directions. Clean the deck membrane in areas to be welded. Hot-air weld the entire perimeter of the Sarnatred-V to the Sarnafil deck sheet. Check all welds with a rounded screwdriver. Re-weld any inconsistencies. **Important:** Check all existing membrane seams which are to be covered by Sarnatred-V with a rounded screwdriver and reweld any inconsistencies before installation. Do not run Sarnatred-V over Sarnabars.

### Crossgrip XTRA

Crossgrip XTRA is installed loose laid on top of completed Sarnafil membrane roof assemblies. Unroll and position Crossgrip XTRA within specified areas and cut to desired length. Connecting clips are available for butting two ends together. **Important:** Check all existing membrane seams which are to be covered by Crossgrip XTRA with a rounded screwdriver and reweld any inconsistencies before installation. Do not run Crossgrip XTRA over Sarnabars.

### Concrete Pavers

Using a separate piece of Sarnafil membrane as a protection layer, weld all edges in place. Place normal weight concrete pavers on the protection membrane. In areas of high wind exposure the pavers shall be strapped together with stainless steel metal straps that are flush with the paver surface. **Important:** Check all existing membrane seams which are to be covered by concrete pavers with a rounded screwdriver and reweld any inconsistencies before installation. Do not run concrete pavers over Sarnabars.

###### [PERIMETER WARNING](#PART_3)

### Tape / Membrane

Areas of membrane where to be applied must be cleaned to a “like new” condition. Failure to properly clean the membrane will result in less than satisfactory adhesion or welding. The membrane should be cleaned as follows:

1) New membrane: Remove loose dirt and dust by wiping clean with water. For areas where dirt is embedded, scrub the application area with a commercial cleaner such as Simple Green, 409 or other similar all-purpose cleaner using a Scotch Brite scrubbing pad or similar product. Wash away residual cleaning material with clean water.

2) Weathered membrane: For older membranes or areas where there is excessive dirt buildup, use the above cleaning procedure followed by cleaning with a natural fiber rag wet with Seam Cleaner, and wipe away all residual cleaning solution and remaining dirt until membrane has a “like new” appearance.

After surface is clean and dry, apply:

 1) Tape: Apply tape to membrane taking care to avoid trapping air and creating blisters as tape is smoothed over with hand pressure. If a chalk line is used, be sure to keep chalk dust clear of application area. Do not apply Perimeter Warning Tape to surfaces where the temperature is below 40°F (4°C).

2) Membrane: Perimeter Warning Membrane is hot-air welded to the top of PVC roofing membrane in the areas required.

Perimeter Warning Tape or Membrane may be slippery when wet.

###### [TEMPORARY CUT-OFF](#PART_3)

All flashings shall be installed concurrently with the roof membrane in order to maintain a watertight condition as the work progresses. All temporary waterstops shall be constructed to provide a 100 percent watertight seal. The stagger of the insulation joints shall be made even by installing partial panels of insulation. The new membrane shall be carried into the waterstop. Waterstop shall be sealed to the deck or substrate so that water will not be allowed to travel under the new or existing roofing. The edge of the membrane shall be sealed in a continuous heavy application of sealant as described in Section 2.10. When work resumes, the contaminated membrane shall be cut out. All sealant, contaminated membrane, insulation fillers, etc. shall be removed from the work area and properly disposed of off-site. None of these materials shall be used in the new work.

If inclement weather occurs while a temporary waterstop is in place, the Applicator shall provide the labor necessary to monitor the situation to maintain a watertight condition.

If any water is allowed to enter under the newly-completed roofing, the affected area shall be removed and replaced at the Applicator's expense.

###### [COMPLETION](#PART_3)

Prior to demobilization from the site, the work shall be reviewed by the Owner's Representative and the Applicator. All defects noted and non-compliances with the Specifications or the recommendations of Sika Corporation shall be itemized in a punch list. These items must be corrected immediately by the Applicator to the satisfaction of the Owner's Representative and Sika Corporation prior to demobilization.

All Warranties referenced in this Specification shall have been submitted and have been accepted at time of contract award.

###### [DETAILS](#PART_3)

Refer to Typical System Details section or [usa.sarnafil.sika.com](http://usa.sarnafil.sika.com/).